aiwa

## COMPACT DISC STEREO SYSTEM

# NSX-S888

## OPERATING INSTRUCTIONS

R·D·S
EON

COMPACT
disc
DIGITAL AUDIO

8Z-NF6-905-11E
990413BTS-U-8-AWM

K

## WARNING

TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.

**CAUTION**
RISK OF ELECTRIC SHOCK
DO NOT OPEN

**ATTENTION**
RISQUE DE CHOC ELECTRIQUE
NE PAS OUVRIR

### CAUTION

TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK).
NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

## CAUTION

Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

This compact disc player is classified as a CLASS 1 LASER product.
The CLASS 1 LASER PRODUCT label is located on the exterior.

| | |
|---|---|
| CLASS 1 | LASER PRODUCT |
| KLASSE 1 | LASER PRODUKT |
| LUOKAN 1 | LASER LAITE |
| KLASS 1 | LASER APPARAT |

## CAUTION!

Invisible laser radiation when open and inter locks defeated. Avoid exposure to beam.

## WARNING

This appliance is supplied with a fitted three pin mains plug. A 5 amp fuse is fitted in the plug.
Should the fuse need to be replaced, use a 5 amp fuse approved by ASTA or BSI to BS1362. When replacing the fuse, you must ensure that any removable fuse covers are correctly refitted.
If you should lose the fuse cover, please contact your nearest AIWA dealer.

**DO NOT CUT OFF THE PLUG FROM THIS APPLIANCE.** If the plug fitted is not suitable for the power points in your home, or the cable is too short to reach a power point, obtain an appropriate safety approved extension lead or adaptor. If in any doubt please consult a qualified electrician.

If the plug is cut off, remove the fuse and dispose of the plug immediately. **THERE IS A DANGER OF SEVERE ELECTRICAL SHOCK IF THE CUT OFF PLUG IS INSERTED INTO ANY 13 AMP SOCKET.**

If a new plug is to be fitted please ensure it contains a 5 amp fuse, otherwise the circuit should be protected by a 5 amp fuse at the distribution board.

## IMPORTANT

The wires in the mains lead are coloured in accordance with the following code:

BLUE — NEUTRAL
BROWN — LIVE

As the colours of the wires in the mains lead of this appliance may not correspond with the colour markings identifying the terminals in your plug, proceed as follows:

The wire which is coloured BLUE must be connected to the terminal which is marked by the letter N or coloured BLACK.

The wire which is coloured BROWN must be connected to the terminal which is marked by the letter L or coloured RED.

**DO NOT** connect either the BLUE or BROWN wires in the mains lead to the earth terminal (marked with the letter E or by the earth symbol ⏚ or coloured GREEN or GREEN/YELLOW) of a three pin plug.

# PRECAUTIONS

Read the Operating Instructions carefully and completely before operating the unit. Be sure to keep the Operating Instructions for future reference. All warnings and cautions in the Operating Instructions and on the unit should be strictly followed, as well as the safety suggestions below.

### Installation

1 **Water and moisture** — Do not use this unit near water, such as near a bath, sink, swimming pool, or the like.
2 **Heat** — Do not use this unit near sources of heat, including heating vents, stoves, or other appliances that generate heat. It also should not be placed in temperatures less than 5°C (41°F) or greater than 35°C (95°F).
3 **Mounting surface** — Place the unit on a flat, even surface.
4 **Ventilation** — The unit should be situated with adequate space around it so that proper heat ventilation is assured. Allow 10 cm (4 in.) clearance from the rear and the top of the unit, and 5 cm (2 in.) from each side.
   - Do not place the unit on a bed, rug, or similar surface that may block the ventilation openings.
   - Do not install the unit in a bookcase, cabinet, or airtight rack where ventilation may be impeded.
5 **Objects and liquid entry** — Take care that objects or liquids do not get inside the unit through the ventilation openings.
6 **Carts and stands** — When placed or mounted on a stand or cart, the unit should be moved with care.
Quick stops, excessive force, and uneven surfaces may cause the unit or cart to overturn or fall.
7 **Condensation** — Moisture may form on the CD pickup lens when:
   - The unit is moved from a cold spot to a warm spot
   - The heating system has just been turned on
   - The unit is used in a very humid room
   - The unit is cooled by an air conditioner
   When this unit has condensation inside, it may not function normally. Should this occur, leave the unit for a few hours, then try to operate again.
8 **Wall or ceiling mounting** — The unit should not be mounted on a wall or ceiling, unless specified in the Operating Instructions.

**Electric Power**

1 **Power sources** — Connect this unit only to power sources specified in the Operating Instructions, and as marked on the unit.

2 **AC power cord**
   - When disconnecting the AC power cord, pull it out by the AC power plug. Do not pull the cord itself.
   - Never handle the AC power plug with wet hands, as this could result in fire or shock.
   - Power cords should be firmly secured to avoid being severely bent, pinched, or walked upon. Pay particular attention to the cord from the unit to the power socket.
   - Avoid overloading AC power plugs and extension cords beyond their capacity, as this could result in fire or shock.

3 **When not in use** — Unplug the AC power plug from the AC power socket if the unit will not be used for several months or more. When the cord is plugged in, a small amount of current continues to flow to the unit, even when the power is turned off.

**Maintenance**

Clean the unit only as recommended in the Operating Instructions.

**Damage Requiring Service**

Have the units serviced by a qualified service technician if:
- The AC power cord or plug has been damaged
- Foreign objects or liquid have got inside the unit
- The unit has been exposed to rain or water
- The unit does not seem to operate normally
- The unit exhibits a marked change in performance
- The unit has been dropped, or the cabinet has been damaged

DO NOT ATTEMPT TO SERVICE THE UNIT YOURSELF.

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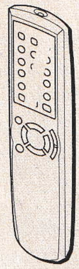
# CONNECTIONS

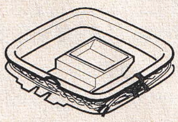
**Check your system and accessories**

**NSX-S888**

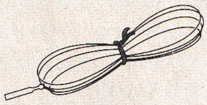
CX-NS888 Compact disc stereo cassette receiver
SX-WNS888 Front speakers



Remote control



MW/LW antenna



FM antenna

Operating Instructions, etc

**Before connecting the AC cord**

The rated voltage of your unit is 230 V AC, as specifed on the rear panel. Check that the rated voltage matches your local voltage.

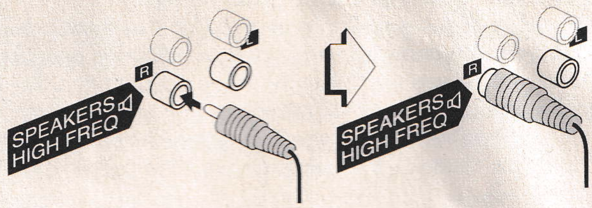
**IMPORTANT**

Connect the speakers, antennas, and all optional equipment first. Then connect the AC cord.

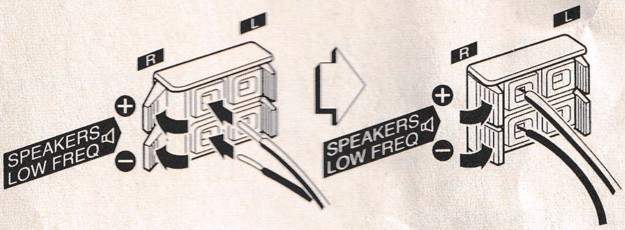
There are no differences between the front speakers. Both speakers can be connected as L (left) or R (right).

### 1 Connect the right speaker to the main unit.

① Connect the speaker cord with the plug to the **SPEAKERS HIGH FREQ R** terminal.

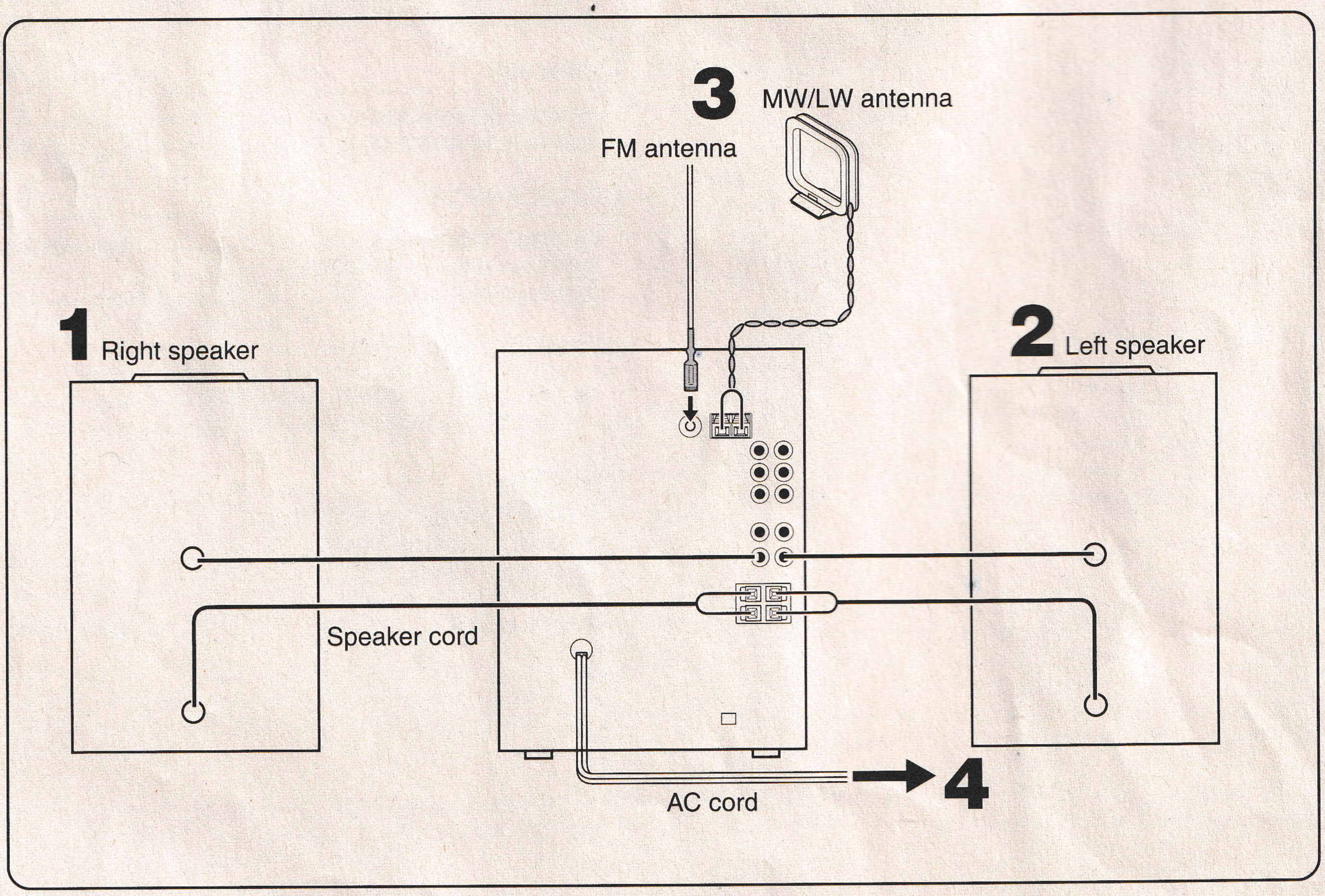

R
L
SPEAKERS HIGH FREQ
R
L
SPEAKERS HIGH FREQ

② Connect the speaker cord with the white stripe to the **SPEAKERS LOW FREQ R ⊕** terminal and the black cord to the ⊖ terminal.


L
R
⊕
⊖
SPEAKERS LOW FREQ
L
R
⊕
⊖
SPEAKERS LOW FREQ

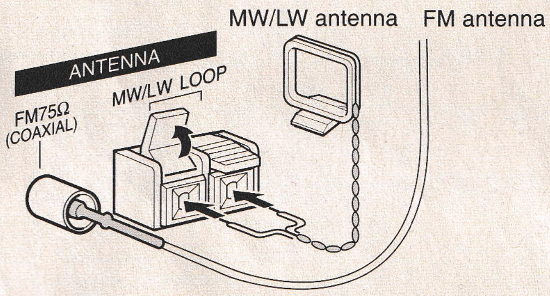
### 2 Connect the left speaker to the main unit.

Connect the speaker cord with plug to the **SPEAKERS HIGH FREQ L** terminal, and another speaker cord to the **SPEAKERS LOW FREQ L** terminals in the same manner as step 1.


3
MW/LW antenna
FM antenna
1
Right speaker
2
Left speaker
Speaker cord
AC cord
4

### *3* Connect the supplied antenna.

Connect the FM antenna to **FM 75 Ω** terminal and the MW/LW antenna to **MW/LM LOOP** terminals.

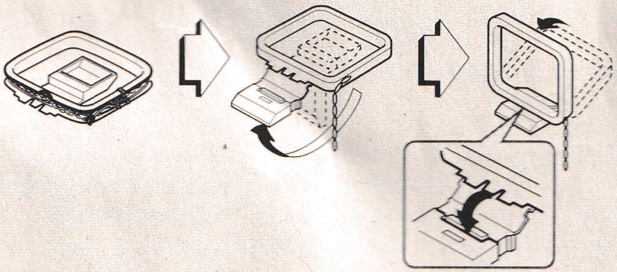


### *4* Connect the AC cord to an AC outlet.

- The game Demo will begin when the AC cord is plugged into an AC outlet. See page 8 "Game Demo" for details.

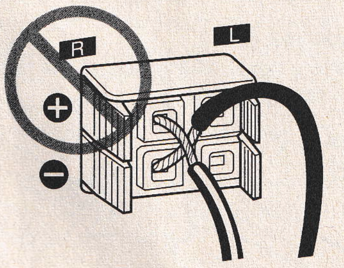
**To position the antennas**
**FM unipolar antenna:**
Extend fully and position for the best possible reception.
This antenna is of an instant type, so the use of an outdoor antenna is recommended.
**MW/LW antenna:**
Position to find the best possible reception.

**To stand the MW/LW antenna on a surface**
Fix the claw to the slot.



**NOTE**

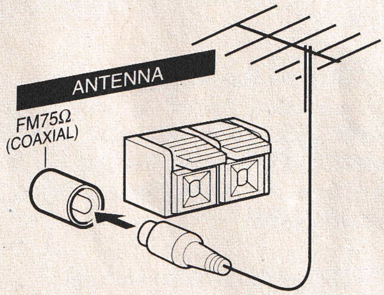
- Be sure to connect the speaker cords correctly. Improper connections can cause short circuits in **SPEAKERS** terminals.



- Do not leave objects generating magnetism, such as credit cards, near the speakers, as these objects may be damaged.
- Do not bring the FM antenna near metal objects or curtain rails.
- Do not bring the MW/LW antenna near other optional equipment, the stereo system itself, the AC cord or speaker cords, since noise will be picked up.
- Do not unwind the MW/LW antenna wire.

## CONNECTING AN OUTDOOR ANTENNA

For better FM reception, use of an outdoor antenna is recommended.
Connect the outdoor antenna to **FM 75 Ω** terminal.

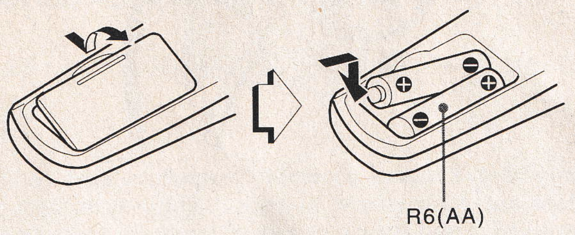


**To connect other optional equipment → page 31.**

# REMOTE CONTROL

### Inserting batteries

Detach the battery cover on the rear of the remote control and insert two R6 (size AA) batteries.



### When to replace the batteries

The maximum operational distance between the remote control and the sensor on the main unit should be approximately 5 metres (16 feet). When this distance decreases, replace the batteries with new ones.

### To use SHIFT on the remote control

Buttons ① have two different functions. One of these functions is indicated on the button, and the other on the plate above the button.

To use the function on the button, simply press the button.

To use the function on the plate above the button, press the button while pressing **SHIFT**.

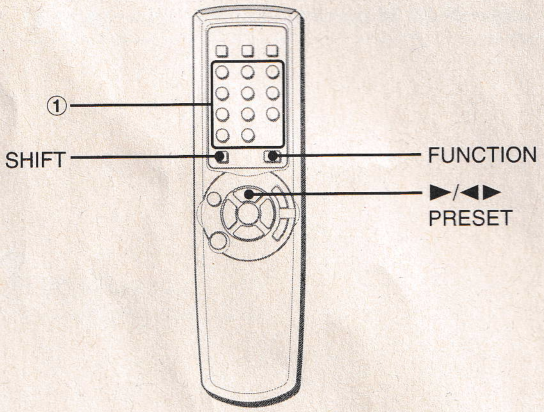
### To use FUNCTION on the remote control

**FUNCTION** substitutes for the function buttons (**TAPE/DECK 1/2**, **TUNER/BAND**, **VIDEO/AUX**, **CD**, **MD**) on the main unit.

Each time **FUNCTION** is pressed, the next function is selected cyclically. When tapes are inserted in both decks, each deck is selected with **FUNCTION**.

### ►/◄► PRESET on the remote control

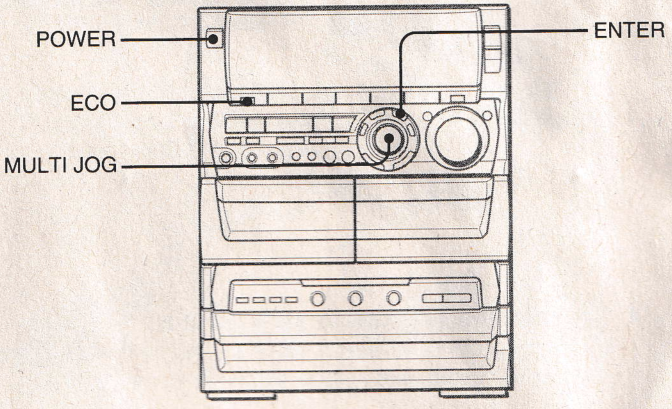
The function is the same as that of ◄► on the main unit.



**NOTE**

- If the remote control is not going to be used for an extended period of time, remove the batteries to prevent possible electrolyte leakage.
- The remote control may not operate correctly when:
  - The line of sight between the remote control and the remote sensor inside the display window is exposed to intense light, such as direct sunlight
  - Other remote controls are used nearby (those of a television, etc.)

# BEFORE OPERATION



### To turn the power on

Press one of the function buttons (**TAPE/DECK1/2**, **TUNER/BAND**, **VIDEO/AUX**, **CD**, **MD**). Playback of the inserted disc or tape begins, or the previously tuned station is received (Direct Play Function).

**POWER** is also available.

**NOTE**

When the power is turned on, the disc compartment may open and close to reset the unit.

### To turn the power off

Press **POWER**.

### Flash window

The inside of both cassette holders is lit up upon powering up. The light turns off when you hold down **TAPE** and press ■. Repeat the process to turn the light back on.

### To change the brightness level of the display

1. Press **ECO** so that "ECO MODE" is displayed.
2. Within 4 seconds, turn **MULTI JOG** to display "DIM MODE", and then press **ENTER** within 4 seconds.
3. Within 4 seconds, turn **MULTI JOG** to select the dimmer mode as below.
   The mode will be automatically set after 4 seconds. It will also be set if **ENTER** is pressed within 4 seconds after step 3.

→ DIM-OFF ←→ DIMMER 1 ←→ DIMMER 2 ←→ DIMMER 3 ←

**DIM-OFF**: The normal display.

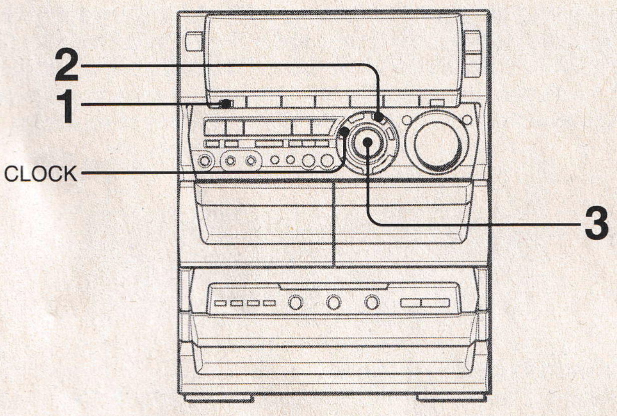
**DIMMER 1**: The illumination of the display is dimmer than usual.

**DIMMER 2**: The illumination of the display is dimmer than DIMMER 1.

**DIMMER 3**: The illumination of the display is dimmer than DIMMER 2, and the front panel blacks out.

**NOTE**

If the timer recording (page 30) is done with the economizing mode (page7) set to "ON" and the power turns off, the dimmer mode will be set to "DIMMER 3" the next time the power is turned on.

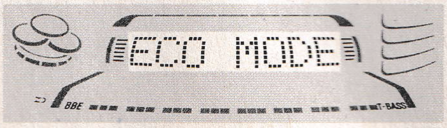


## SETTING POWER ECONOMIZING MODE

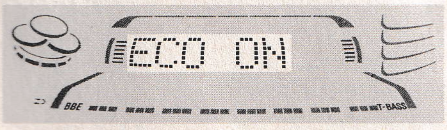
Setting this unit to power economizing mode reduces power consumption as follows.

- When the power is turned off, all the display lights turn off. However, if the clock is not set, the game Demo (page 8) will begin when the power is turned off.
- If CD, Tape or Rhythm play function (page 9) does not play for 10 minutes or if there is no audio input from any connected external equipment for 10 minutes when VIDEO/AUX or MD is selected as the source, the power shuts off.
- When the power turns on due to timer recording (page 30), the display brightness level is set to "DIMMER 3" (page 6), all button lamps are off, and the volume is set to the minimum level (0).
- The display brightens only when operating the unit. When the unit has not been used for 10 seconds, the brightness level switches to the mode previously selected in "DIM MODE". (Page 6)
  (If the display brightness level is set to "DIM-OFF", the brightness does not change. When the level is "DIMMER 3", the button lamps are also turned off.)

1. **Press ECO.**
   "ECO MODE" will be displayed.



2. **Press ENTER within 4 seconds.**
   The current power-economizing mode status will be displayed.
   If the power-economizing mode is OFF: ECO OFF
   If the power-economizing mode is ON: ECO ON
3. **Turn MULTI JOG within 4 seconds to switch the power-economizing mode on or off.**
   Example: When "ON" is selected



The mode will be automatically set after 4 seconds. It will also be set if **ENTER** is pressed within 4 seconds after step 3.

**NOTE**

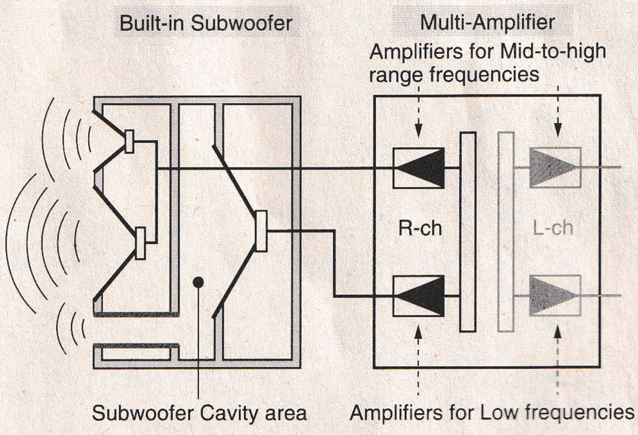
To view the clock when all the display lights turn off, press **CLOCK** so that the time is displayed for 4 seconds.

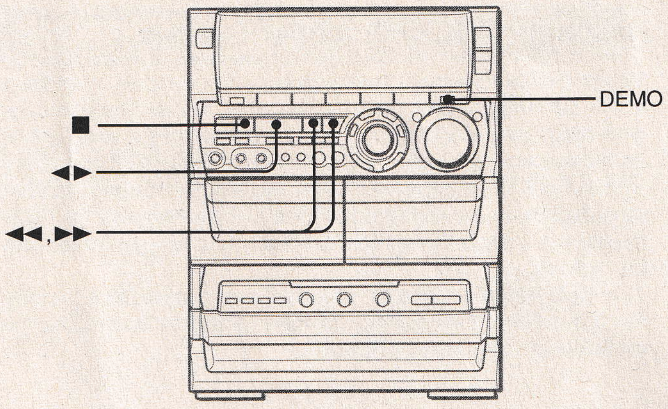
## 4-Channel Multi-Amplifier System

To provide reinforcement for the ultra-low frequencies, in addition to the Left/Right 2-channel amplifier used to reproduce mid-to-high-range frequencies, this system incorporates a second L/R 2-channel amplifier just for reproduction of ultra-low frequencies — making it, in effect, a 4-amplifier system. By utilizing discrete amplifiers for mid to-high-frequencies and low frequencies, high-quality sonic reproduction that is virtually free from distortion can be realized.
This Multi Amplifier System, which utilizes independent circuitry for the different frequency ranges, enables superb sonic reproduction free from distortion.

## Built-in Subwoofer System

The built-in subwoofer System has a separate subwoofer cavity area that is part of the loudspeaker cabinet structure, which acts as a sonic filter to cut distortion components. (In the Multi Amplifier System, the ultra-low frequency signals transmitted from their own independent amplifier are reproduced in this area.) This separate construction gives a clear, rich definition to bass reproduction and it can realize clear, well-defined mid-to-high frequency signals.
And AIWA's built-in subwoofer system incorporates a subwoofer capable of powerful, satisfying bass performance with true stereo separation.


Built-in Subwoofer
Multi-Amplifier
Amplifiers for Mid-to-high range frequencies
R-ch
L-ch
Subwoofer Cavity area
Amplifiers for Low frequencies



## Game Demo

When you only plug the AC power cord for the first time after purchase, the game automatically comes on. This initial state is disabled once you set the built-in clock. As long as you leave the clock intact, the game automatically comes on when switching off power.

### To play the game Demo

**Press DEMO whether the unit is turned on or off, and whether the clock has been set or not.**

With the power switched off the game is silent. With the power switched on it is livened up with audio (referred to as game sound in the following).

1. **Press ◀▶.**
   Three numbers on the display start to run.
2. **Press ■ once.**
   The number on the left side stops.
3. **Press ■ twice to stop the remaining two numbers.**
   *Scoring:*
   20 points are given to start the game.
   If all the numbers are equal, 50 points are added to the score.
   If not equal, one point is subtracted.
   If the gained points reach 9999, you win.
   If the gained points fall to 0, you lose.

**To cancel the game Demo**

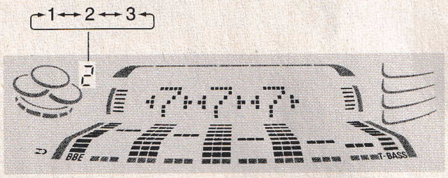
Press **DEMO**.

**To reset the game Demo**

Press **DEMO** twice.

**To change the probability of equalizing the three numbers**

Press ◀◀ or ▶▶ repeatedly to select one of the three probability levels when playing the game Demo. The tray number indicator in the display changes between 1, 2 and 3. As the tray number increases from 1 to 3, the higher the probability of equalizing.



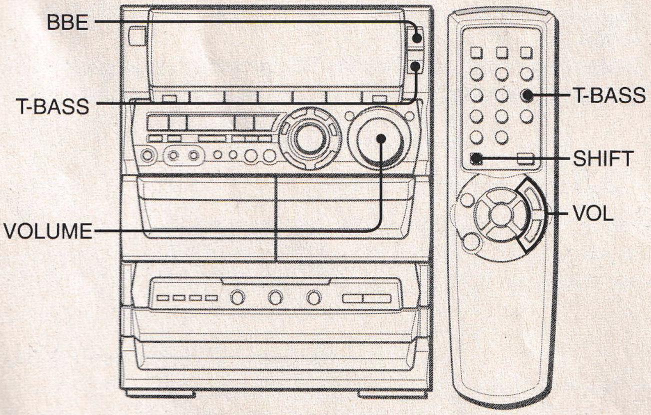
**To mute the game sound**

Firstly, cancel the game Demo by pressing **DEMO**. Then, keep pressing **DEMO** until "♪♪ OFF" is displayed.
To restore the game sound, keep pressing **DEMO** again until "♪♪ ON" is displayed.

**NOTE**

- During playing the game Demo, ■, ◀◀, ▶▶ and ◀▶ are available only for the game Demo. Cancel the game Demo to use these buttons for the functions such as CD playing, etc.
- To change the game sound, see "RHYTHM PLAY FUNCTION" on page 9.
- During the game Demo, some indicators unrelated with the actual operation light up on the display.
- DEMO is locked out during recording and is not operative.
- The game Demo and the game sound are automatically cancelled if the volume is adjusted while the unit is turned on.

# AUDIO ADJUSTMENTS

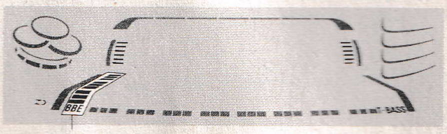

BBE
T-BASS
VOLUME
T-BASS
SHIFT
VOL

## VOLUME

**Turn VOLUME on the main unit, or press VOL on the remote control.**
The volume level is displayed as a number from 0 to MAX (50).
The volume level is automatically set to 20 when the power is turned off with the volume level set to 21 or more.

## BBE SYSTEM

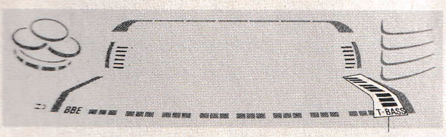
The BBE system enhances the clarity of high-frequency sound. It also enriches the Karaoke function to make your voice sound clear and pleasant.
**Press BBE.**
Each time it is pressed, the level changes. Select one of the three levels, or the off position to suit your preference.



BBE

## SUPER T-BASS SYSTEM

The T-BASS system enhances the realism of low-frequency sound.
**Press T-BASS.**
Each time it is pressed, the level changes. Select one of the three levels, or the off position to suit your preference.



T-BASS

**To select with the remote control**
Press **T-BASS** while pressing **SHIFT**.

**NOTE**

- Low frequency sound may be distorted when the T-BASS system is used for a disc or tape in which low frequency sound is originally emphasized. In this case, cancel the T-BASS system.
- When playing back a tape recorded with BBE, it is recommended that BBE be set to off to avoid distorted high frequency sound.

# RHYTHM PLAY FUNCTION (BEAT MASTER DX)

## USING THE BEAT FUNCTION

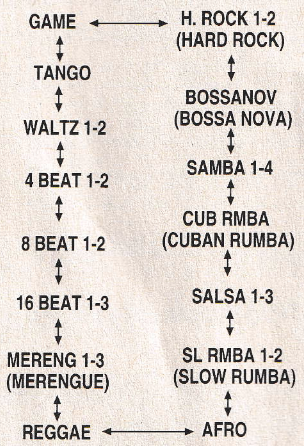
This unit has a library of rhythm patterns from which you can select the desired one to add to the playback of any music sources, thus allowing you to create your original sounds.
The mix created with the BEAT and BBE functions can be recorded on tape if you want to. Also, the mix is available at **LINE OUT**.

**NOTE**

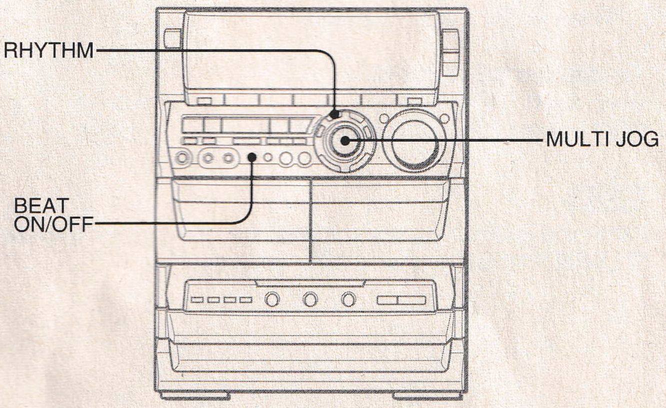
The BEAT function is not available when making a tape copy between two tape decks using **SYNC DUB**.

### To select a rhythm pattern

1. **Press BEAT ON/OFF to switch the function on.**
   You'll hear the current rhythm pattern, the display showing the name of the rhythm.
2. **Turn MULTI JOG to cycle through the options provided until you find one that meets the music.**
   The display will change as follows:


GAME
TANGO
WALTZ 1-2
4 BEAT 1-2
8 BEAT 1-2
16 BEAT 1-3
MERENG 1-3
(MERENGUE)
REGGAE
AFRO
SL RMBA 1-2
(SLOW RUMBA)
SALSA 1-3
CUB RMBA
(CUBAN RUMBA)
SAMBA 1-4
BOSSANOV
(BOSSA NOVA)
H. ROCK 1-2
(HARD ROCK)

### To adjust the tempo of the rhythm pattern


RHYTHM
BEAT
ON/OFF
MULTI JOG

1. **Press RHYTHM repeatedly until the display reads "Tempo XXX."**

---

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**NOTE**
If "AUTO" shows while you are pressing **RHYTHM**, change it to "MANUAL" by turning **MULTI JOG** to the left. In AUTO mode the tempo is automatically set and you cannot access the display of "Tempo." (More about AUTO mode later.)

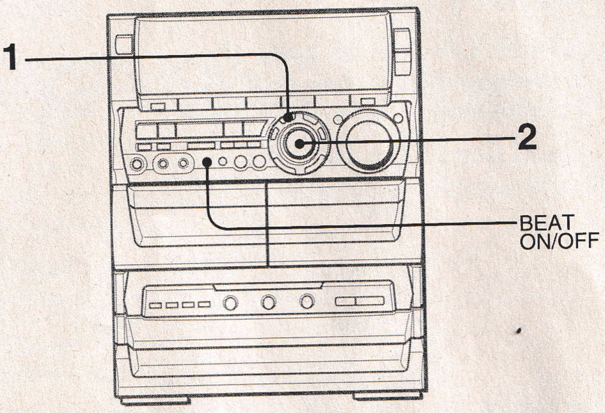
*2* **Turn MULTI JOG.**
Turning to the right speeds up the tempo. Turning to the left slows down the tempo.

(If a time-out occurs before you turn the dial, go back to the display of "Tempo" by pressing **RHYTHM**. )

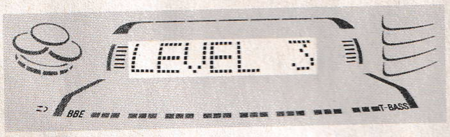
The tempo can be changed within the limits of 81 to 160.

**NOTE**
The tempo of GAME is not adjustable.

### To change the volume level of the rhythm pattern



*1* **Press RHYTHM repeatedly until the display reads "LEVEL X."**



*2* **Turn MULTI JOG.**
Three levels, 1-3, are available.

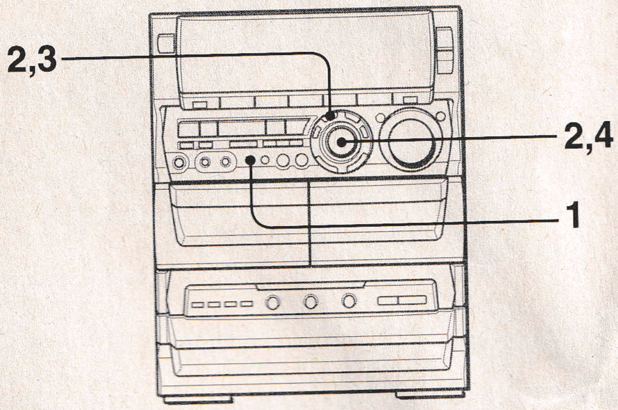
**To stop the BEAT function**
Press **BEAT ON/OFF**.
BEAT toggles between On and Off.

**NOTE**
When you interrupt or stop the playback of the sound source, the BEAT function is automatically switched off.

### Using the AUTO mode

The AUTO mode automatically adjusts the tempo of the current rhythm pattern so it coincides with the tempo of the music.

**NOTE**
Depending on the music the AUTO mode may not work correctly (with songs whose tempo is fuzzy, or is varying, for example).

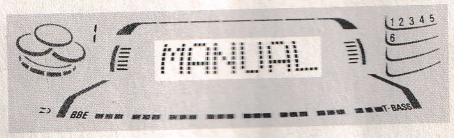


You can let the music start playing before performing step 1 or later at the desired moment.

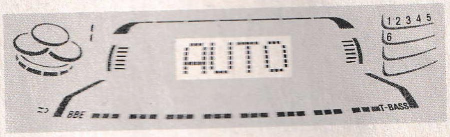
*1* **Press BEAT ON/OFF to switch the function on.**
You will hear the current rhythm pattern.

*2* **Change the rhythm pattern and the level setting as required by pressing RHYTHM and turning MULTI JOG.**

*3* **Press RHYTHM to switch the display to read "MANUAL" or "AUTO."**

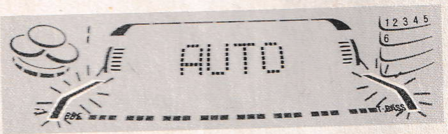


*4* **Turn MULTI JOG to the right to change the display to "AUTO."**
If "AUTO" is displayed in step 3, turn **MULTI JOG** to the left to change the display to "MANUAL" before performing step 4.



On switching from MANUAL over to AUTO the level of the rhythm pattern is automatically reduced to "1." The preset level will be resumed when the unit takes on the tempo of the music.

While the unit is trying to get synced up to the tempo of the music, a cascade-like blue indicator will flash on the sides of the graphic equalizer display section.



When the unit gets synced up to the tempo of the music, the display will momentarily read the synced-up tempo.

Depending on sound sources (such as, songs whose tempo is varying), however, you may see different tempos appearing one after the other in the display.

After once synced up if the sync lock unlocks the display will read "BEAT OUT," and again the unit will try to get synced up.

At the occurrence of BEAT OUT the level of the rhythm is automatically reduced to "1"; and it increases back to the preset level when sync is achieved again.

**NOTE**

The BEAT function can be used together with the SPICE A/B function, as well as with the FILL IN function. (For these functions see below.) But you cannot use the AUTO SPICE function at the same see time as the BEAT function.

## Using the FILL IN function

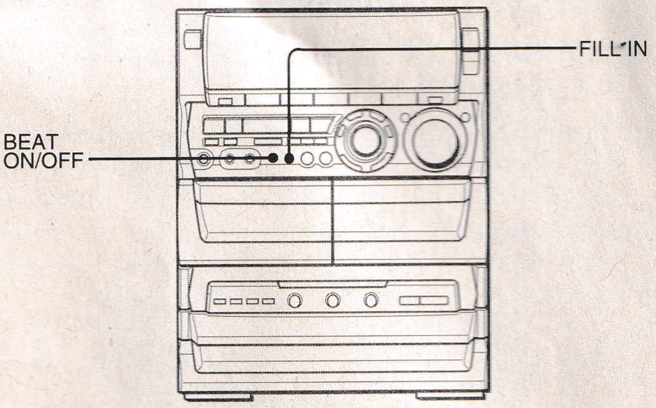
The FILL IN function is used together with the BEAT function to insert a variation of the current rhythm pattern.

The AUTO SPICE/FILL IN double function switch takes on the FILL IN function when the BEAT function is switched on.

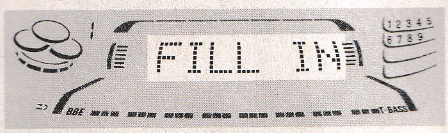
**NOTE**

- The AUTO SPICE function is not available at the same time as the FILL IN function.
- The FILL IN function is not available when making a tape copy between two tape decks using **SYNC DUB**.

### To use the FILL IN function



During playback with the BEAT function switched on, press **FILL IN** at the desired moment.



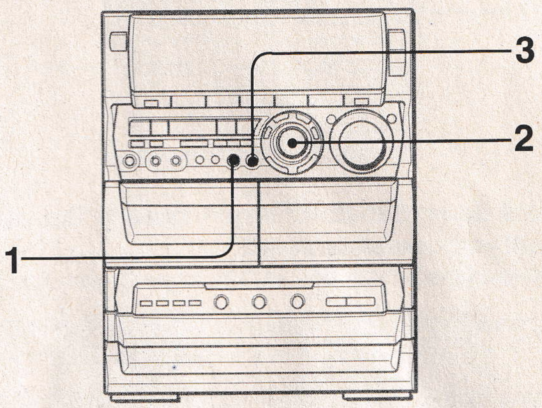
The display will read "FILL IN" and, when the current cycle of the rhythm pattern is over, you'll hear a short sound different from the rhythm pattern. This sound depends on rhythm patterns. If you want, try to change the rhythm pattern. (Selecting a rhythm pattern is discussed earlier, under the corresponding heading.)

## USING THE SPICE FUNCTION

### SPICE A/B function

The SPICE A/B function allows you to add percussion to the playback of the music and create your original sounds.
Your sounds created with SPICE A/B can be recorded on tape if you want to.

### To select sounds



1. **Press A.**
   You'll hear the current sound stored in A.
2. **Within 4 seconds, turn MULTI JOG to the left or right until you find the desired sound.**
   As the display changes, you'll hear the respective sound.
3. **In a similar way, select a sound for B.**

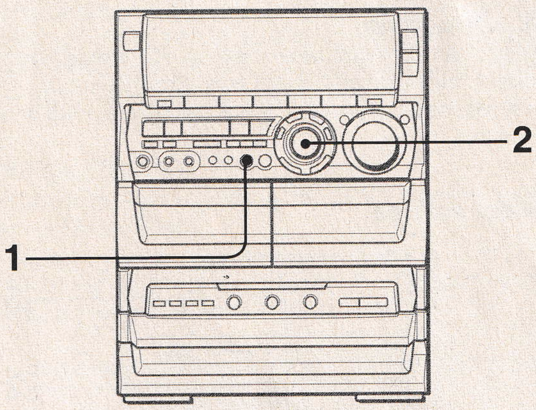
### To actually use the function

Once you are satisfied with the sound selection, let the music start playing, and hit **SPICE A** or **B** in time with the music as if to play percussion instruments.

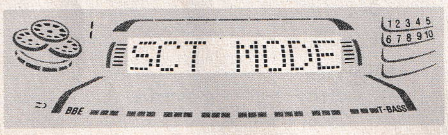
**NOTE**

You cannot use the SPICE A/B function when making a tape copy between two tape decks using **SYNC DUB**.

### Using a scratch mode



*1* **Hold down SPICE A. (Don't release the button until you complete step 2.)**
The display will read "SCT MODE."



*2* **Still holding down the button, turn MULTI JOG.**
Depending on the direction in which you turn **MULTI JOG**, different scratches are produced.

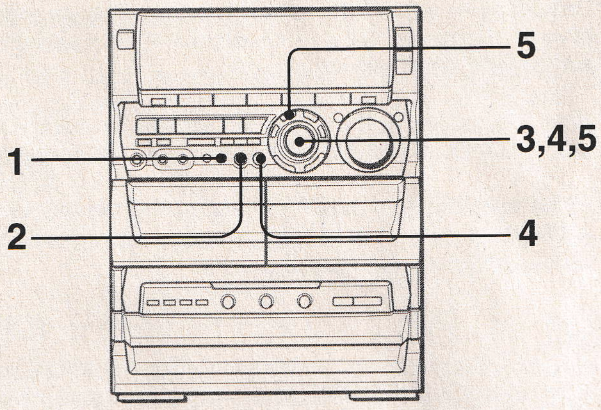
The scratch mode is disabled when you release the A button.

### Using the AUTO SPICE function

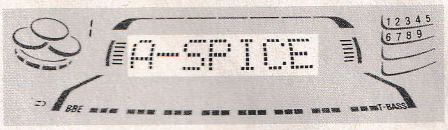
The AUTO SPICE function produces the sounds of SPICE A and B in sync with the music, the sound of A in response to low frequency signals, and the sound of B in response to high frequency signals.

**NOTE**

- The AUTO SPICE function cannot be used together with the BEAT function.
- Depending on the music the AUTO SPICE function may not work the way you'd expect. In such a case, use the SPICE A/B function instead.
- The AUTO SPICE function is not available when making a tape copy between two tape decks using **SYNC DUB**.



*1* **Press AUTO SPICE.**
"A-SPICE" will show in the display.

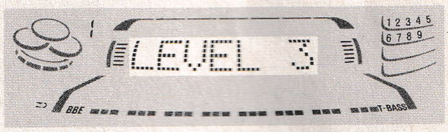


*2* **Press SPICE A.**
You'll hear the sound currently stored in A, its name appearing in the display.
Each time you press A the sound is produced.

*3* **If you want to change the sound of A, turn MULTI JOG until you find the desired sound.**
(If a time-out occurs after completing step 2 and before performing step 3, press SPICE A again.)

*4* **In a similar way, check the sound of B and change it if you want to.**

*5* **To adjust the level of the A and B sounds, access the display of "LEVEL X" by pressing RHYTHM as many times as necessary, then within 4 seconds turn MULTI JOG.**
Three levels, 1, 2 and 3, are available.



The A and B levels are adjusted at one time.

*6* **Let the source start playing to audition the effect.**
The blue cascade-like indicator to the left of "BBE" in the display will flash and the sound of SPICE A will play in sync with the bass, and the sound of SPICE B in sync with the treble.

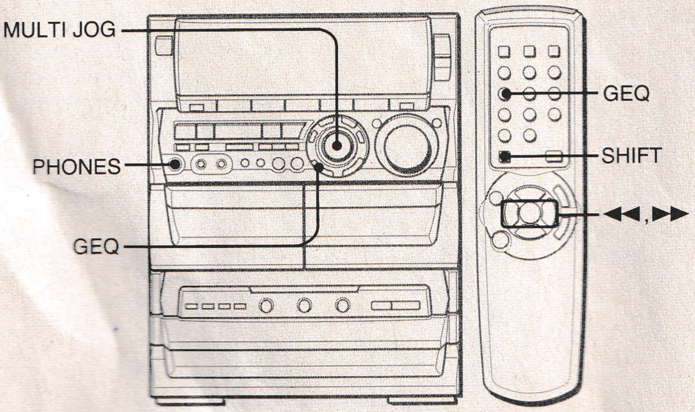
**NOTE**

When a rhythm pattern is playing or while a FILL IN sound is being produced if you flip **SPICE A** or **B** or produce scratches, a momentary break would occasionally occur in the rhythm pattern or the FILL IN sound. The same goes for the AUTO SPICE sounds when you flip **SPICE A** or **B** or produce scratches.

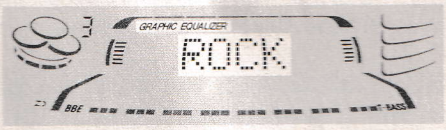
# GRAPHIC EQUALIZER

## SELECTING THE PROGRAMMED EQUALIZATION CURVE

This unit provides the following 5 different programmed equalization curves.
**ROCK:** Powerful sound emphasizing treble and bass
**POP:** More presence in the vocals and midrange
**LATIN:** Accented higher frequencies for latin music.
**CLASSIC:** Enriched sound with heavy bass and fine treble.
**JAZZ:** Accented lower frequencies for jazz-type music



**Press GEQ, and turn MULTI JOG to select one of the programmed equalization curves within 4 seconds.**



"GRAPHIC EQUALIZER" appears and the GEQ mode is displayed cyclically as follows.

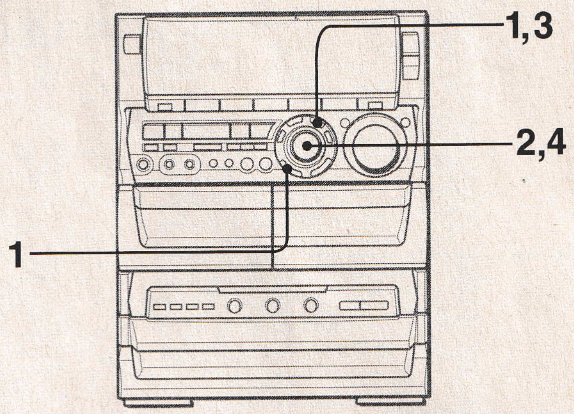
ROCK ↔ POP ↔ LATIN ↔ CLASSIC ↔ JAZZ
Programmed mode
M5 ↔ M4 ↔ M3 ↔ M2 ↔ M1
Manual mode

**To display the current GEQ mode**
Press **GEQ**. The current mode is displayed for 4 seconds.

**To cancel the selected mode**
Press **GEQ** twice.
"GEQ OFF" appears and "GRAPHIC EQUALIZER" disappears.

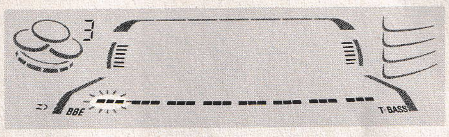
**To select with the remote control**
Press **GEQ** while pressing **SHIFT**, and within 4 seconds press ◀◀ or ▶▶ repeatedly. The GEQ mode is displayed cyclically as above.

## SETTING A NEW EQUALIZATION CURVE MANUALLY

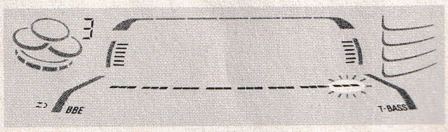


The equalization curve can be customized to suit your preference.

1. **Press GEQ, followed by ENTER within 4 seconds.**
   The display will be switched to read "GEQ LOW."
2. **Within 8 seconds, turn MULTI JOG to adjust the level of the lowest frequency.**



3. **Press ENTER to let "GEQ HIGH" show.**
   The highest level frequency indicator flashes for 8 seconds.
4. **Within 8 seconds, turn MULTI JOG to adjust the level of the highest frequency.**



The frequency level indicators between the lowest and the highest are adjusted accordingly.

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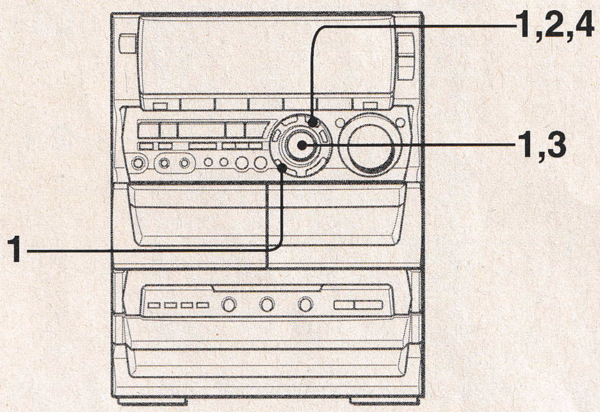
**Using the headphones**
Connect headphones to the **PHONES** jack with a standard stereo plug (ø6.3 mm, 1/4 inch).
No sound is output from the speakers while the headphones are plugged in.

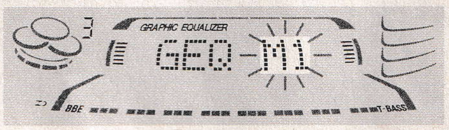
**Sound adjustment during recording**
The VOLUME control has no effect on recording. It only sets the level feeding the speakers and headphones. Remember, however, recording takes on the BEAT, AUTO SPICE/FILL IN, SPICE A/B functions, as well as on the BBE function.

## MEMORIZING THE NEW EQUALIZATION CURVES



Up to 5 customized equalization curves can be stored as the manual modes M1 - M5.

1. **Go through steps 1-4 on previous page.**
   The created curve is displayed for 8 seconds.
2. **Within 8 seconds, press ENTER.**
   "M 1" flashes on the display for 8 seconds.



- If this step is not completed within 8 seconds, press **GEQ** first to display "GEQ ON". Then within 4 seconds press **ENTER** repeatedly until "M1" flashes.

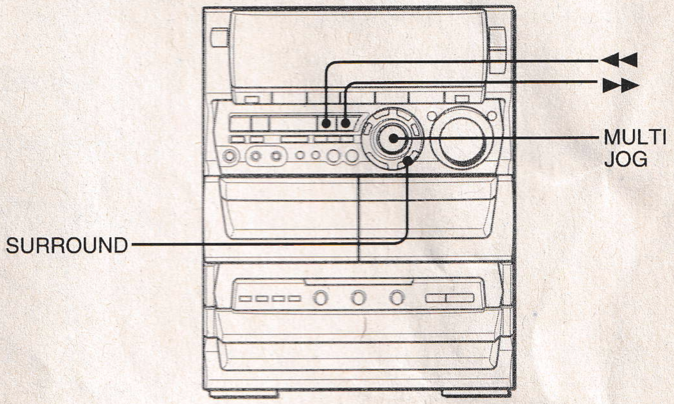
3. **Within 8 seconds, turn MULTI JOG to select one of the manual modes M1 - M5 to store the curve.**
4. **Within 8 seconds, press ENTER.**
   The new equalization curve is stored.

**To select the stored equalization curve**
Press **GEQ**, and turn **MULTI JOG** to select one of the manual modes M1 - M5 within 4 seconds.

# DSP SURROUND

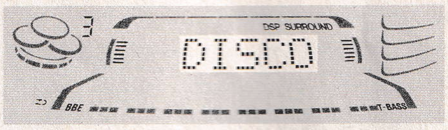
The DSP (Digital Signal Processor) SURROUND sonically changes the acoustic characteristics of any listening room, allowing you to enjoy the real sound presence of different environments.
This unit has been programmed with 5 different SURROUND modes.

## SELECTING A PROGRAMMED DSP SURROUND MODE



Five modes of DSP SURROUND offer the sound presence you'd experience in disco (DISCO), at a live concert (LIVE), stadium (STADIUM), in a concert hall (HALL) or movie theatre (MOVIE). (Shown in parentheses are indications appearing in the display.)

**Press SURROUND, and turn MULTI JOG or press ◀◀ or ▶▶ repeatedly to select the desired programmed mode within 4 seconds.**



"DSP SURROUND" appears and the DSP SURROUND mode is displayed cyclically as follows.

→ DISCO ←→ LIVE ←→ STADIUM ←→ HALL ←→ MOVIE ←

Equalization curves are selected automatically to match the DSP SURROUND modes and can also be manually selected or turned off to suit your preference.

**To display the current DSP SURROUND mode**
Press **SURROUND**. The current mode is displayed for 4 seconds.

**To cancel the selected mode**
Press **SURROUND** twice. "DSP OFF" appears and "DSP SURROUND" disappears.

**When the music source is monaural**
Select "LIVE", "STADIUM" or "MOVIE" to obtain a simulated stereo effect.
When "DISCO" or "HALL" is selected, no sound will be heard from the surround speakers.

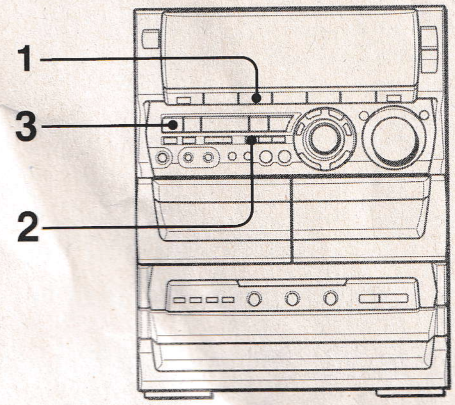
# PRESETTING STATIONS

The unit can store a total of 32 preset stations. Presetting allows you to tune in to a station directly. Stations are assigned preset numbers, beginning from 1 in consecutive order for each band (FM, MW, LW).

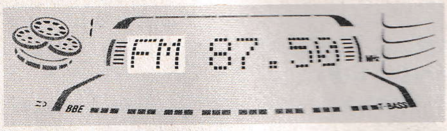
**Automatic presetting:**
This unit has a function for reception of *1RDS (Radio Data System) and other stations.
FM RDS stations take priority over other FM stations if there are more than 32 receivable stations.
**Manual presetting:**
You can select stations to be preset from all the bands.

## AUTOMATIC PRESETTING

The tuner scans through the receivable frequency range and stores stations automatically.

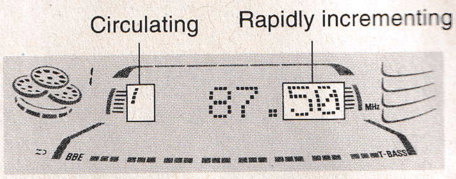


1 **Press TUNER/BAND.**
FM is displayed.



2 **Keep pressing RT for 4 seconds until "AUTO PRESET" is displayed.**
II flashes for 4 seconds on **SET** button.

3 **Press II SET while II flashes.**
The tuner searches for a station, beginning with the FM band. When a tuned station is stored, the selected preset number flashes on the display.

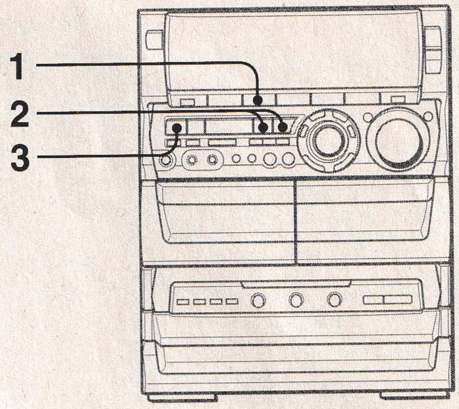


The search continues on the MW and LW bands if preset numbers are still available.
When automatic presetting has been completed, the display returns to the first preset station.

**When the tuner detects *2identical RDS stations with alternative frequencies**
Only the station with the stronger signal is stored.
Before storing an RDS station, the tuner checks first whether the same stations on the other frequencies are present, and stores the station with the best reception.

**NOTE**
When automatic presetting is done, all previously stored stations are cleared.

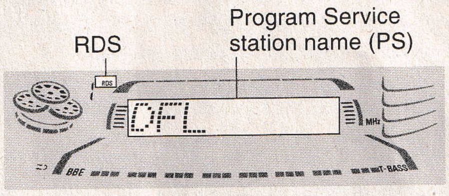
## MANUAL PRESETTING



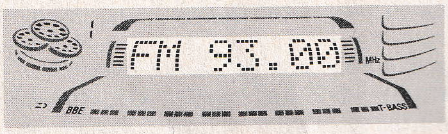
1 **Press TUNER/BAND repeatedly to select the band.**

→ FM → MW → LW ─┐

2 **Press I◀◀ DOWN or ▶▶I UP to select a station.**
Each time the button is pressed, the frequency changes.
ⓐ When tuning in to an FM RDS station
After TUNE on the display goes out, the Program Service station name (*3PS) is displayed and RDS lights up.



ⓑ When tuning in to the other stations
After TUNE on the display goes out, the band is displayed.



- During FM stereo reception, ((◎)) lights.

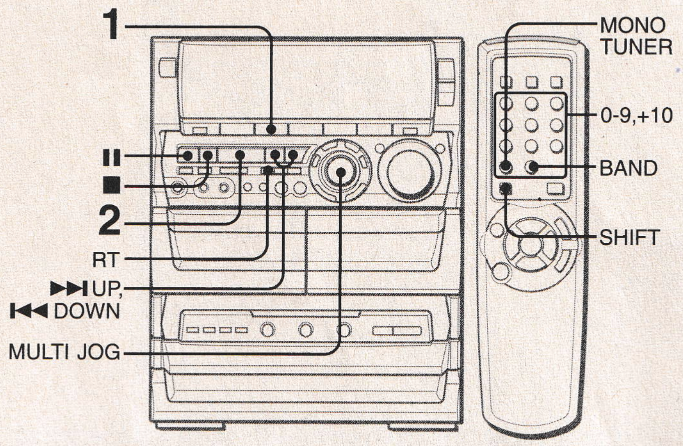
3 **Press II SET to store the station.**
The selected preset number flashes.

4 **Repeat steps 1 to 3 to store the stations.**
The next station will not be stored if a total of 32 preset stations for all the bands have already been stored.

**To search for a station quickly with I◀◀ DOWN or ▶▶I UP (Auto Search)**
Keep one of the buttons pressed until the tuner starts searching for a station. The search stops when the tuner tunes in to a station.
To stop the Auto Search manually, press one of the buttons.
- The Auto Search may not stop at stations with very weak signals.

**NOTE**
"FULL" is displayed if you attempt to store more than 32 preset stations.

# RECEPTION BY PRESET NUMBER



1. **Press TUNER/BAND to select a band.**
2. **Press ◀▶ PRESET repeatedly or turn MULTI JOG.**
   Each time the button is pressed, the next highest number is selected.

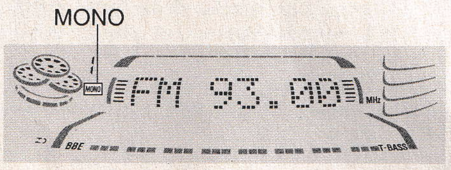
**Selecting a preset number on the remote control**
Press **BAND** while pressing **SHIFT** to select a band. Then, press numbered buttons to select a preset number.
Example:
To select preset number 20, press **+10**, **+10** and **0**.
To select preset number 15, press **+10** and **5**.

**To clear a preset station**
Select the preset number of the station to be cleared. Then, press **■ CLEAR**, and press **II SET** within 4 seconds.
The preset numbers of all stations in the band with higher numbers are also decreased by one.

**To tune in to a station which is not preset**
Press **TUNER/BAND** to select a band, and press **I◀◀ DOWN** or **▶▶I UP** to select the station.

**To play a tuned station when the power is off (Direct Play Function)**
Press **TUNER/BAND**. The power is turned on and the tuned station is played.

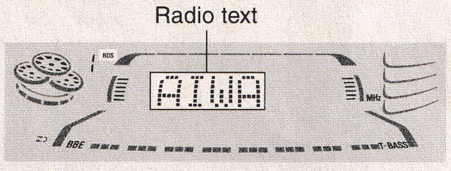
**When an FM stereo broadcast contains noise**
Press **MONO TUNER** while pressing **SHIFT** on the remote control to display "MONO."



Noise is reduced, although reception is monaural.
To restore stereo reception, repeat the above so that "MONO" disappears.

**NOTE**
RDS functions may not work correctly if the RDS transmission data from the station contains too much interference or the reception signal is too weak.

**To display radio text (*[4]RT) during RDS reception**
When the tuned station is transmitting RT codes, text appears on the display when **RT** is pressed.
If the tuned station is not transmitting RT codes, "NO RT" is displayed when **RT** is pressed.



To return to the normal display, press **RT** again.

***[1]RDS**
Today many stations transmit so-called RDS (Radio Data System) codes that contain a variety of additional information along with regular sound signals.

***[2]Identical RDS stations with alternative frequencies (AF)**
This is a list of alternative frequencies that gives information on the various transmitters broadcasting the same program in the same reception area. It enables receivers equipped with memory to store the list, to reduce the time needed for switching to another transmitter.

***[3]Program service station name (PS)**
This is a name consisting of not more than 8 alphanumeric characters, which is displayed in order to inform listeners about the program service being broadcast by the radio station.
Example: BBC 1
**Characters which can be displayed**

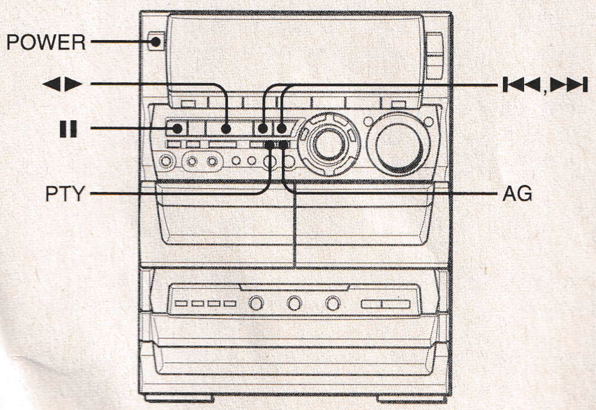
A B C D E F G H I J K L M N O P Q R S T U V W X Y Z
0 1 2 3 4 5 6 7 8 9 < > ? " ' * @ – + / = [ ]

If a character transmitted by the broadcast is not applicable to receivers, a blank space is inserted.

***[4]Radio text (RT)**
Information such as the cast list of a play or the title of a song is shown on the display.

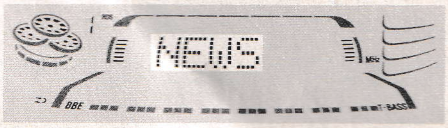
# SEARCHING WITH THE HELP OF RDS CODES

Each RDS station identifies the type of program (*[5]PTY) which it is currently broadcasting. If you specify a PTY, the unit can automatically detect a suitable station from the preset stations. In addition, the *[6]EON (Enhanced Other Networks) service works in some areas, so that searching is much faster.



## TO DISPLAY THE PTY

**Press PTY once during RDS reception.**



Programs are classified as follows:

TRAFFIC, NEWS, AFFAIRS (current affairs), INFO (information), SPORT, EDUCATE (education), DRAMA, CULTURE, SCIENCE, VARIED, POP M (pop music), ROCK M (rock music), EASY M (middle of the road music), LIGHT M (light classical), CLASSICS (serious classical), OTHER M (other music), WEATHER, FINANCE, CHILDREN (Children's programmes), SOCIAL (Social Affairs), RELIGION, PHONE IN, TRAVEL, LEISURE, JAZZ (Jazz Music), COUNTRY (Country Music), NATION M (National Music), OLDIES (Oldies Music), FOLK M (Folk Music), DOCUMENT (Documentary), TEST (Alarm Test), ALARM

**NOTE**

- If program type information is not being transmitted, NO PTY is displayed.
- If undefined program type information is being transmitted, UNDEFINE is displayed.
- The unit identifies TRAFFIC with one of the program types.

## TO SEARCH FOR A SPECIFIED PTY

1. **Press PTY.**
   The program type of the currently tuned station is displayed.
2. **Within 4 seconds, press I◄◄ DOWN or ►►I UP to select a program type.**
3. **Within 4 seconds, press PTY again.**
   The search automatically checks every preset station. After identifying a suitable station, the station will be selected.

**EON service for the PTY search**
When EON service works to transmit PTY, a suitable station is detected without checking every preset station. When a station transmits EON information, it takes about 15 to 30 seconds for the unit to decode the EON information. After decoding the information, EON lights up on the display.

**When a station is not found**
NOT FOUND is displayed and the unit returns to the previous station.

**When the TRAFFIC program type is selected**
The unit searches for a station transmitting a *[7]TP code. However, the tuned station may not be broadcasting a traffic announcement currently. Wait for a while. The tuned station broadcasts traffic information regularly and a traffic announcement will be made.

## EON SEARCH

During FM RDS reception, the unit switches to radio programs with the specified PTY automatically as soon as they begin.

1. **Press PTY.**
   The program type of the currently tuned station is displayed.
2. **Within 4 seconds, press I◄◄ or ►►I to select a program type.**
3. **Within 4 seconds, press II SET.**
   "EON ON" is displayed for 3 seconds. Then, "EON" starts flashing and the unit enters EON search standby mode.
   When a radio program with the specified PTY in another radio station begins, it interrupts the currently playing radio program and the radio program with the specified PTY is heard. At this time, "EON" flashes rapidly.
   At the end of the radio program with the specified PTY, the previous FM radio station is restored.
   - EON search standby mode is stored until it is cancelled even if the power is turned off.

**To restore the previous FM station during reception of the radio program with the specified PTY**
Press **◄► PRESET**.
At this time, EON search standby mode is cancelled.

**To cancel EON search standby mode**
Keep **PTY** pressed. (Do not release **PTY** yet.) "EON PTY" and the specified PTY are displayed alternately. At this time, press **II SET** with pressing **PTY**. "EON OFF" is displayed and EON search standby mode is cancelled.

**NOTE**

The EON search function does not work when:
- FM stations are not preset.
- The signals of stations with the specified PTY are weak.
- FM RDS is not received.

## OTHER FUNCTION OF RDS CODES

### Auto GEQ function

The equalization curve is switched automatically to match the music program type of an RDS station.

**Press AG.**

AG lights up.
To cancel, press it again.

GEQ matching PTY:

| PTY | GEQ |
|---|---|
| POP M | POP |
| ROCK M | ROCK |
| LIGHT M | JAZZ |
| CLASSICS | CLASSIC |
| JAZZ | JAZZ |
| COUNTRY | POP |
| NATION M | POP |
| OLDIES | POP |
| FOLK M | JAZZ |
| Others | off |

The selected GEQ can be changed to suit your preference by pressing **GEQ**. During this time, the Auto GEQ function is cancelled.

### Clock-time (*[8]CT)

The CT function provides the unit with information about the local time. The CT function works whenever a CT station is received.

**If you have not set the clock (the clock flashes on the display)**

The current time can be set automatically by tuning in to an RDS station.
If no RDS station is preset, keep **⏮ DOWN** or **⏭ UP** pressed until RDS lights up.

**If the clock does not agree with the broadcast time**

An RDS signal will update the clock time on the hour every hour.

***[5]Program type identification (PTY)**

PTY allows selection of listening by one of 30 or more program types rather than by a station.

***[6]Enhanced other networks information (EON)**

EON information gives the receiver a cross reference to other stations and allows the receiver to switch from the currently tuned station to another RDS station.

***[7]Traffic program identification (TP)**

This is a code which informs the receiver that a tuned station regularly broadcasts traffic information.

***[8]Clock-time (CT)**

CT function provides an accurate clock signal which is self adjusting to time zones and seasonal time changes.

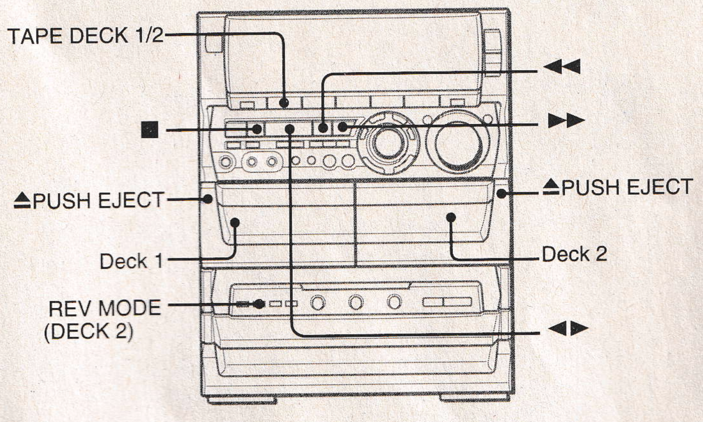
**To change the MW tuning interval**

The default setting of the MW tuning interval is 9 kHz/step. If you use the unit in an area where the frequency allocation system is 10 kHz/step, change the tuning interval as follows.
Press **POWER** while pressing ◀▶.
To reset the interval, repeat this procedure.

**NOTE**

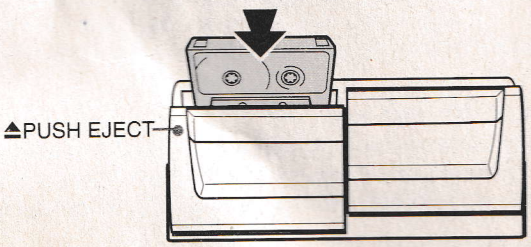
When the MW tuning interval is changed, all preset stations are cleared. The preset stations have to be set again.

## BASIC OPERATIONS



- On deck 1, tapes are always played back on both sides. On deck 2, you can select a reverse mode to play back one or both sides.
- Use Type I (normal), Type II (high/CrO2) or Type IV (metal) tapes for playback.

**1 Press TAPE/DECK 1/2 and press ⏏ PUSH EJECT to open the cassette holder.**



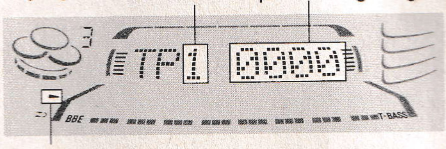
Insert a tape with the exposed side down. Push the cassette holder to close.

**2 Press DOLBY NR and turn Dolby NR on or off to match the playback tape.**

**3 Press ◀▶ to start play.**

Playing deck number

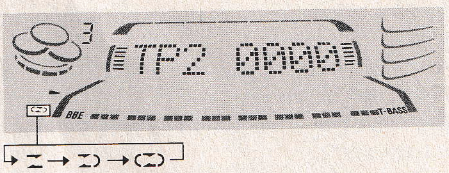
The tape counter indicates the tape running length.



Playback side indicator

▶:The front side is being played (forward).
◀:The back side is being played (reverse).

**To select a reverse mode (deck 2 only)**
Each time **REV MODE (DECK 2)** is pressed, the reverse mode changes.



To play one side only, select Ξ.
To play from front side to reverse side once only, select Ξ⊃.
To play both sides repeatedly, select ⊂Ξ⊃.

- When tapes are loaded in both decks, Ξ⊃ on the display indicates Continuous Play.

**To select a playing deck**
When tapes are loaded in both decks, press **TAPE/DECK 1/2** first to select a deck.
The selected deck number is displayed.

**To stop play, press ■.**
**To pause play (deck 2 only)**, press **❚❚**. To resume play, press again.
**To change the playback side**, press ◀▶ in play or pause mode.
**To fast forward or rewind**, press ◀◀ or ▶▶. Then press ■ to stop the tape.

**To start play when the power is off (Direct Play Function)**
Press **TAPE/DECK 1/2**. The power is turned on and play of the inserted tape begins.

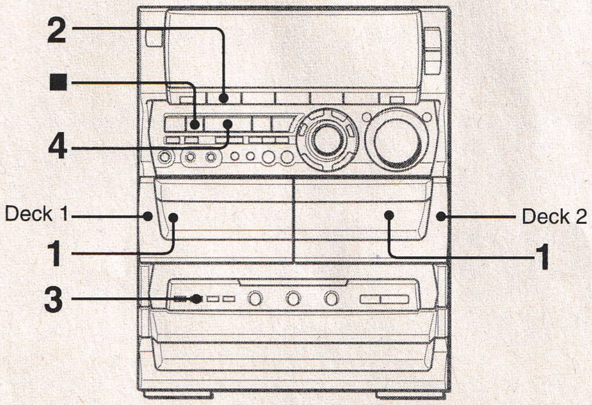
**To set the tape counter to 0000**
Press **■ CLEAR** in stop mode.
The counter is also set to 0000 when the cassette holder is opened and closed.

## MUSIC SENSOR

If there is a 4-second or longer blank between each track, a search for the beginning of the current or next track during playback can be done easily.
Press ◀◀ or ▶▶ during playback referring to the playback side indicator (◀ or ▶) on the display.
For example, when ▶▶ is pressed while ▶ is displayed, playback of the next track starts.

Music sensor function may not be able to detect tracks under the following conditions:
- Blanks of less than 4 seconds between tracks
- Noisy blanks
- Long passages of low-end sound
- Low overall recording levels

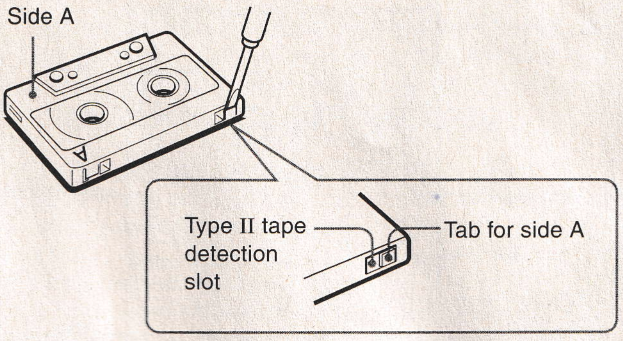
## CONTINUOUS PLAY



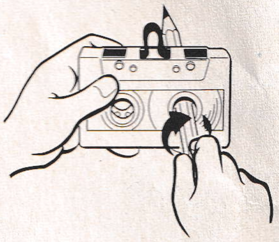
After playback on one deck finishes, the tape in the other deck will start to play without interruption.

1. **Insert tapes into deck 1 and deck 2.**
2. **Press TAPE/DECK1/2 to select the deck to be played back first.**
3. **Press REV MODE (DECK 2) to select ⊐⊃.**
4. **Press ◀▶ to start playback.**
   Playback continues until ■ is pressed.

**About cassette tapes**
- **To prevent accidental erasure**, break off the plastic tabs on the cassette tape after recording with a screwdriver or other pointed tool.

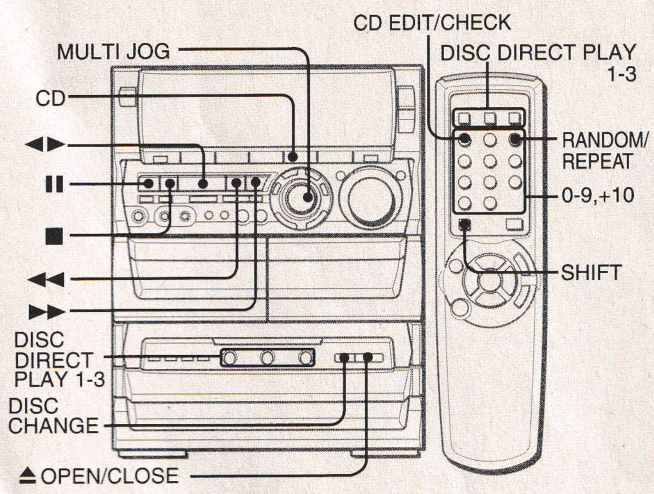


To record on the tape again, cover the tab openings with adhesive tape, etc. (On Type II tapes, take care not to cover the Type II tape detection slot.)
- **120-minute or longer tapes** are extremely thin and easily deformed or damaged. They are not recommended.
- **Take up any slack in** the tape with a pencil or similar tool before use. Slack tape may break or jam in the mechanism.



**DOLBY NR system**
The Dolby Noise Reduction system reduces tape hiss noise. For optimum performance when playing back a tape recorded with the DOLBY NR system, turn on the DOLBY NR system.

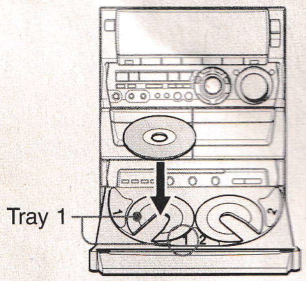
## BASIC OPERATIONS

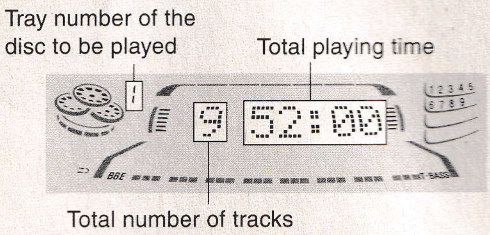

CD EDIT/CHECK
MULTI JOG
DISC DIRECT PLAY 1-3
CD
◄►
RANDOM/ REPEAT
❚❚
0-9,+10
■
◄◄
SHIFT
►►
DISC DIRECT PLAY 1-3
DISC CHANGE
⏏ OPEN/CLOSE

### LOADING DISCS

**Press CD, then press ⏏ OPEN/CLOSE to open the disc compartment. Load disc(s) with the label side up.**

To play one or two discs, place the discs on tray 1 and 2.
To play three discs, press **DISC CHANGE** to rotate the trays after placing two discs. Place the third disc on tray 3.
Close the disc compartment by pressing ⏏ **OPEN/CLOSE**.

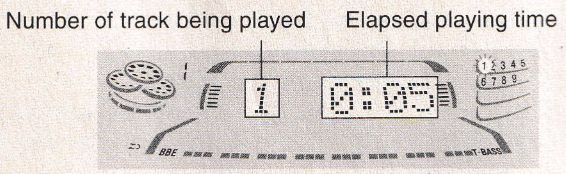



Tray number of the disc to be played
Total playing time
1
9
52:00
BBE
T-BASS
Total number of tracks

### PLAYING DISCS

Load discs.

**To play all discs in the disc compartment, press ◄►.**
Play begins with the disc on tray 1.


Number of track being played
Elapsed playing time
1
0:05
BBE
T-BASS

**To play one disc only, press DISC DIRECT PLAY 1-3.**
The selected disc is played once.

**To stop play**, press ■.
**To pause play**, press ❚❚. To resume play, press again.
**To search for a particular point during playback**, keep ◄◄ or ►► pressed and release it at the desired point.
**To skip to the beginning of a track during playback**, press ◄◄ or ►► repeatedly or turn **MULTI JOG**.
**To remove discs**, press ⏏ **OPEN/CLOSE**.

**To start play when the power is off (Direct Play Function)**
Press **CD**. The power is turned on and play of the loaded disc(s) begins.
When ⏏ **OPEN/CLOSE** is pressed, the power is also turned on and the disc compartment is opened.

**To check the remaining time**
During play, press **CD EDIT/CHECK**. The amount of time remaining until all tracks finish playing is displayed. To restore the playing time display, repeat the above.
When using the remote control, press **CD EDIT/CHECK** while pressing **SHIFT**.

**Selecting a track with the remote control**
1. Press **DISC DIRECT PLAY 1-3** to select a disc.
2. Press numbered buttons **0-9** and **+10** to select a track.
   Example:
   To select the 25th track, press **+10**, **+10** and **5**.
   To select the 10th track, press **+10** and **0**.
   The selected track starts to play and continues to the end of that disc.

**Replacing discs during play**
While one disc is playing, the other discs can be replaced without interrupting play.
1. Press **DISC CHANGE**.
2. Remove the discs and replace with other discs.
3. Press ⏏ **OPEN/CLOSE** to close the disc compartment.

**NOTE**
- When loading an 8-cm (3-inch) disc, put it onto the inner circle of the tray.
- Do not place more than one compact disc on one disc tray.
- Do not tilt the unit with discs loaded. Doing so may cause malfunctions.
- Do not use irregular shape CDs (example: heart-shaped, octagonal ones). It may result in malfunctions.

## RANDOM/REPEAT PLAY

Use the remote control.

**RANDOM play**
All the tracks on the selected disc or all the discs can be played randomly.

**REPEAT play**
A single disc or all the discs can be played repeatedly.

**Press RANDOM/REPEAT while pressing SHIFT .**
Each time it is pressed, the function can be selected cyclically.

- **RANDOM play** — RANDOM lights up on the display.
- **REPEAT play** — ↻ lights up on the display.
- **RANDOM/REPEAT play** — RANDOM and ↻ light up on the display.
- **Cancel** — RANDOM and ↻ disappear from the display.

To play all discs, press ◄► to start play.
To play a single disc, press one of **DISC DIRECT PLAY 1-3** to start play.

**NOTE**

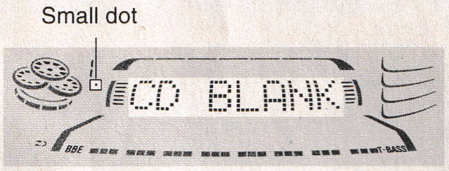
During random play it is not possible to skip to the previously played track with ◄◄.

## BLANK SKIP PLAY

The silent portions between tracks recorded on a CD can be skipped during playback.

### 1 Press CD BLANK SKIP.

"CD BLANK SKIP ON" is displayed and a small dot appears in the display.



### 2 Press ◄► to start playback.

The silent portions between tracks will be skipped, and the sound will be played back without interruption. If a track fades out (ends with the sound gradually decreasing), the fadeout portion also will be skipped.

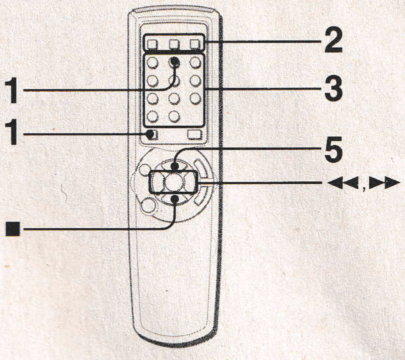
**To return to normal playback**
Press **CD BLANK SKIP** again, and "CD BLANK SKIP OFF" is displayed and the dot in the display disappears.

**NOTE**

- There may be a case where BLANK SKIP PLAY does not function correctly.
- BLANK SKIP PLAY is automatically cancelled when performing AI EDIT RECORDING (page 25), PROGRAMMED EDIT RECORDING (page 26), or recording during PROGRAMMED PLAY (page 22) or RANDOM PLAY (page 22).

## PROGRAMMED PLAY

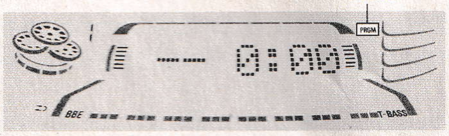
Up to 30 tracks can be programmed from any of the inserted discs.



Use the remote control.

### 1 Press PRGM twice while pressing SHIFT in stop mode.

"PRGM" is displayed .



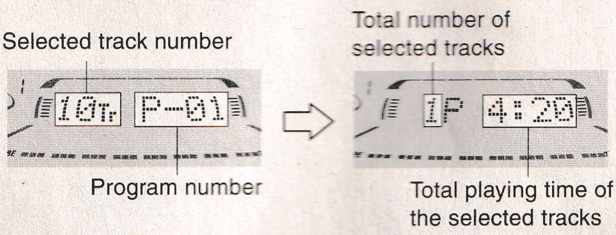
- When **PRGM** is pressed once in step 1, the unit enters the KARAOKE PROGRAM (page 28).

### 2 Press DISC DIRECT PLAY 1-3 to select a disc.

Go to the next step when the tray stops rotating.

### 3 Press numbered buttons 0-9 and +10 to program a track.

Example:
To select the 25th track, press **+10**, **+10** and **5**.
To select the 10th track, press **+10** and **0**.


Selected track number
Total number of selected tracks
10Tr P-01
1P 4:20
Program number
Total playing time of the selected tracks

### 4 Repeat steps 2 and 3 to program other tracks.

### 5 Press ◄► to start play.

**To check the program**
Each time ◄◄ or ►► is pressed in stop mode, a disc number, track number, and program number will be displayed.

**To clear the program**
Press ■ **CLEAR** in stop mode.

**To add tracks to the program**
Repeat steps 2 and 3 in stop mode. The track will be programmed after the last track.

**To change the programmed tracks**
Clear the program and repeat all the steps again.

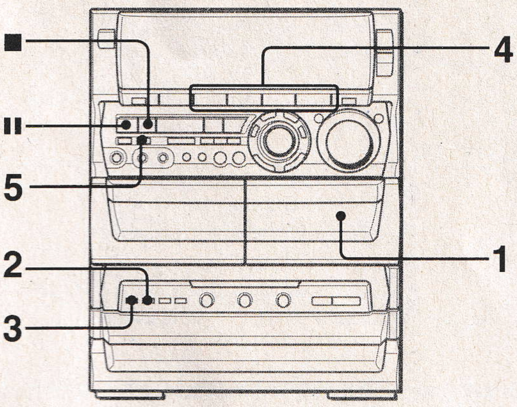
**To play the programmed tracks repeatedly**
After programming the tracks, press **RANDOM/REPEAT** repeatedly while pressing **SHIFT** until ↻ appears on the display.

**NOTE**

- During programmed play, you cannot perform random play, check the remaining time, and select a disc or track. "Can't USE" is displayed if you attempt to select a track.
- "FULL" is displayed if you attempt to program more than 30 tracks.

## BASIC RECORDING

This section explains how to record from the tuner, CD player, or external equipment.

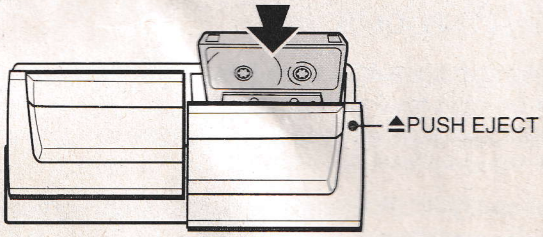


**Preparation**

- Use Type I (normal) and Type II (high/CrO$_2$) tapes for recording.
- Set the tape to the point where recording will start.

### 1 Insert the tape to be recorded on into deck 2.

Insert the tape with the side to be recorded on first facing out from the unit.



### 2 Press REV MODE (DECK 2) to select the reverse mode.

To record on one side only, select ⊐.
To record on both sides, select ⊐⊃ or ⊂⊐⊃.

### 3 Press DOLBY NR to turn Dolby NR on or off.

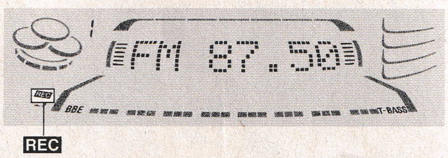
To record with DOLBY NR, turn on DD NR.
To record without DOLBY NR, turn off DD NR.

### 4 Press a function (TUNER/BAND, VIDEO/AUX, CD or MD) and prepare the source to be recorded.

To record from a CD, press **CD** and load the disc(s).
To record from a radio broadcast, press **TUNER/BAND** and tune in to a station.
To record from a connected source, press **VIDEO/AUX** or **MD**.

### 5 Press ● REC/REC MUTE to start recording.

When recording from a connected source, start playback of the source.



When the selected function is CD, playback and recording start simultaneously.

**To stop recording**, press ■.
**To pause recording**, press **II**. (Applicable when the source is TUNER, VIDEO/AUX or MD.) To resume recording, press it again.

**Sound adjustment during recording**
The VOLUME control has no effect on recording. It only sets the level feeding the speakers and headphones. Remember, however, recording takes on the BEAT, AUTO SPICE/FILL IN, SPICE A/B functions, as well as on the BBE function.

## INSERTING BLANK SPACES

Insertion of 4-second blank spaces enables you to activate the Music Sensor function. (Applicable when the source is TUNER/BAND, VIDEO/AUX or MD.)

1. **Press ● REC/REC MUTE during recording or while in recording pause mode.**
   REC on the display flashes for 4 seconds and 4-second blank space is made. Then, the deck enters the recording pause mode.
2. **Press II to resume recording.**

To insert a blank space of less than 4 seconds, press ● **REC/REC MUTE** again while REC is flashing.
To insert blank spaces of more than 4 seconds, after the deck enters recording pause mode, press ● **REC/REC MUTE** again. Each time the button is pressed, a 4-second blank space is added.

**NOTE**

If squealing or beating sounds occur when recording an MW or LW broadcast, press **MONO TUNER** on the remote control while pressing **SHIFT** until "BEAT 1" or "BEAT 2" is displayed, so as to eliminate the noise

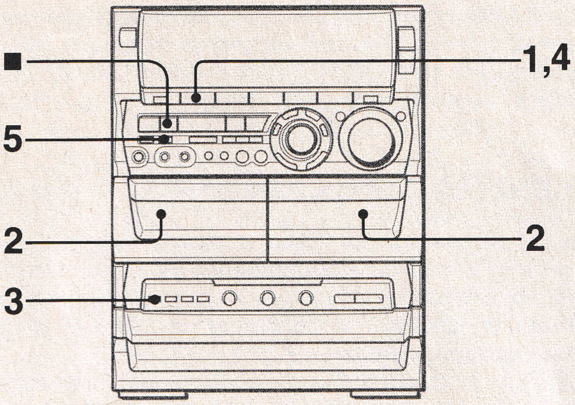
**NOTE**

"Can't REC" is displayed if you attempt to record on a tape with the plastic tabs broken off.

**To erase a recording**
Remember to unplug the microphone(s). Also, check to make sure that BEAT and AUTO SPICE are switched off (page 9).

1. Insert the tape to be erased into deck 2 and press **TAPE/DECK 1/2** to display "TP 2".
2. Set the tape to the point where the erasure is to be started.
3. Set the reverse mode by pressing **REV MODE (DECK 2)**.
4. Press ● **REC/REC MUTE** to start the erasure.

## DUBBING A TAPE MANUALLY



**NOTE**

- Set the tape to the point where recording will start.
- The reverse mode is automatically set to ⊐.
  Note that recording will be done on one side of the tape only.

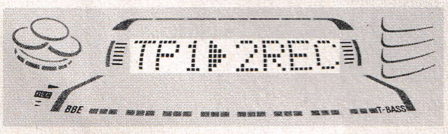
*1* **Press TAPE/DECK 1/2.**

*2* **Insert the original tape into deck 1 and the tape to be recorded on into deck 2.**
Insert the tapes with the sides to be played back or recorded on facing out from the unit.

*3* **Press DOLBY NR to turn off the Dolby NR.**
DD NR on the display goes out.

*4* **Press TAPE/DECK 1/2 to select deck 1.**
"TP 1" is displayed.

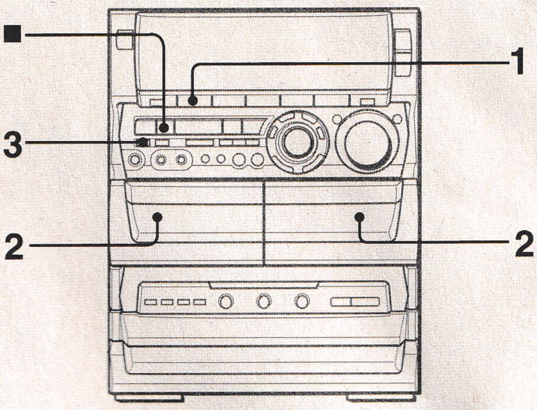
*5* **Press ● REC/REC MUTE to start recording.**
Playing and recording start simultaneously.



**To stop dubbing**
Press ■.

**To set the Dolby NR when playing back the dubbed tape**
Press **DOLBY NR** and turn Dolby NR on or off to match the original tape.

## DUBBING THE WHOLE TAPE



This function allows you to make exact copies of both sides of the original tape. The reverse side of both tapes will start simultaneously as soon as the longer tape has been reversed.

**NOTE**

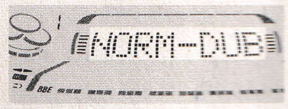
- Dubbing does not start from a point halfway in the tape.
- The reverse mode is automatically set to ⊐⊃.
- The Dolby NR does not affect recording.

*1* **Press TAPE/DECK 1/2.**

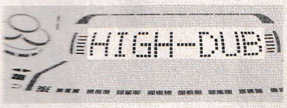
*2* **Insert the original tape into deck 1 and the tape to be recorded on into deck 2.**
Insert each tape with the side to be played back or recorded on facing out from the unit.

*3* **Press SYNC DUB once or twice to start recording.**
① **For recording at normal speed**, press it once to display NORM-DUB.
② **For recording at high speed**, press it twice to display HIGH-DUB.

①



②



The tapes are rewound to the beginning of the front sides, and recording starts.

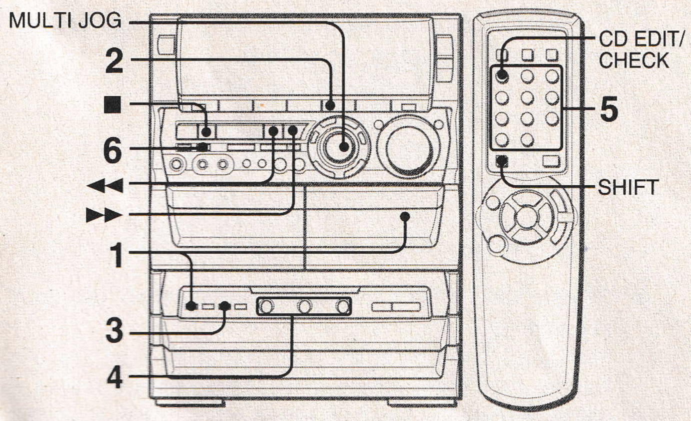
**To stop dubbing**
Press ■.

**To set the Dolby NR when playing back the dubbed tape**
Press **DOLBY NR** and turn Dolby NR on or off to match the original tape.

**NOTE**

Recording does not start, if the erasure prevention tab on either side of the tape is broken off.

# AI EDIT RECORDING



The AI edit recording function enables CD recording without worrying about tape length and track length. When a CD is inserted, the unit automatically calculates the total track length. If necessary, the order of tracks is rearranged so that no track is cut short.
(AI: Artificial Intelligence)

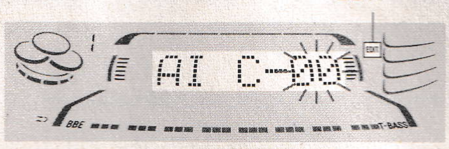
**NOTE**

AI edit recording will not start from a point halfway into the tape. The tape must be recorded from the beginning of either side.

*1* **Insert the tape into deck 2, and press DOLBY NR to turn Dolby NR on or off.**
Insert the tape with the side to be recorded on first facing out from the unit.

*2* **Press CD and load the disc(s).**

*3* **Press CD EDIT/CHECK once.**
When using the remote control, press **CD EDIT/CHECK** once while pressing **SHIFT**.
"EDIT" is displayed.

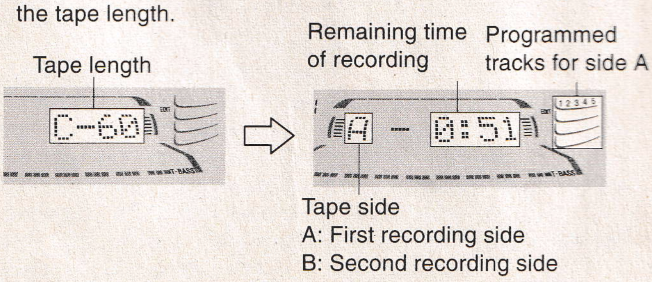


- When "PRGM" is displayed, press **CD EDIT/CHECK**.

*4* **Press DISC DIRECT PLAY 1-3 to select a disc.**

*5* **Press numbered buttons 0-9 on the remote control to designate the tape length.**
10 to 99 minutes can be specified.
Example: When using a 60-minute tape, press **6** and **0**.
In a few seconds, the tracks to be recorded on each side of the tape are determined.

- ◀◀, ▶▶ or **MULTI JOG** are also available to designate the tape length.



*6* **Press ● REC/REC MUTE to start recording on the first side.**
The tape is rewound to the beginning of the front side, the lead segment is played through for 10 seconds, and recording starts. When recording on the front (side A) ends, recording on the back (side B) starts.

### To stop recording

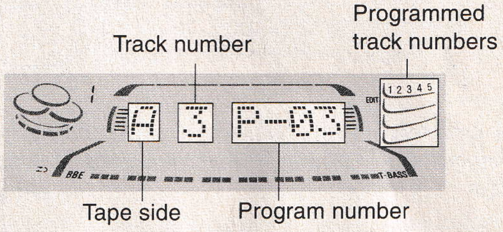
Press ■. Recording and CD play stop simultaneously.

### To clear the edit program

Press ■ **CLEAR** twice so that "EDIT" disappears on the display.

### To check the order of the programmed track numbers

Before recording, press **CD EDIT/CHECK** to select side A or B, and press ◀◀ or ▶▶ repeatedly.



### To add tracks from other discs to the edit program

If there is any time remaining on the tape after step 5, you can add tracks from other discs in the CD compartment .

1 Press **CD EDIT/CHECK** to select side A or B.
2 Press **DISC DIRECT PLAY 1-3** to select a disc.
3 Press numbered buttons on the remote control to select tracks. A track whose playing time is longer than the remaining time cannot be programmed.
4 Repeat steps 2 and 3 to add more tracks.

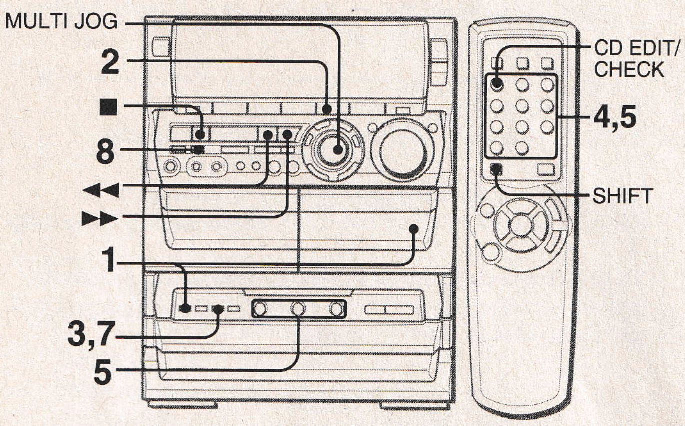
### Time on cassette tapes and editing time

The actual cassette recording time is usually a little longer than the specified recording time printed on the label. This unit can program tracks to use the extra time. When the total recording time is a little longer than the tape's specified recording time after editing, the display shows the extra time (without a minus mark), instead of the time remaining on the tape (with the minus mark).

**NOTE**

- The AI edit recording function cannot be used with discs containing 31 tracks or more. "TR OVER" is displayed if this is attempted.
- Recording is inhibited if the erasure prevention tab on either side of the tape is broken off.

# PROGRAMMED EDIT RECORDING


MULTI JOG
2
■
8
◀◀
▶▶
1
3,7
5
CD EDIT/ CHECK
4,5
SHIFT

In the programmed edit recording function the tracks can be programmed while checking the remaining time on each side of the tape.

**NOTE**

The programmed edit recording will not start from a point halfway in the tape. The tape must be recorded on from the beginning of either side.

**1 Insert the tape into deck 2, and press DOLBY NR to turn Dolby NR on or off.**

Insert the tape with the side to be recorded on first facing out from the unit.

**2 Press CD and load the disc(s).**

**3 Press CD EDIT/CHECK twice.**

When using the remote control, press **CD EDIT/CHECK** twice while pressing **SHIFT**.

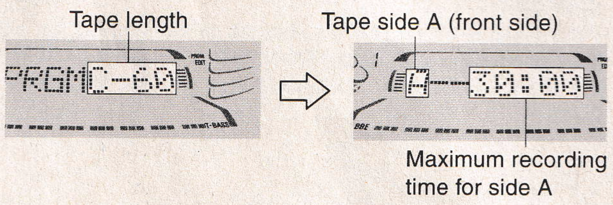
"EDIT" and "PRGM" are displayed.

- When "AI" is displayed, press **CD EDIT/CHECK** again.

**4 Press numbered buttons on the remote control to designate the tape length.**

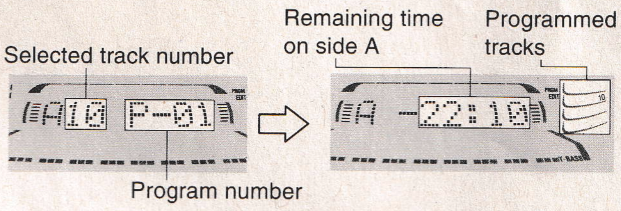
10 to 99 minutes can be specified.

- The ◀◀, ▶▶ or **MULTI JOG** are also available to designate the tape length.


Tape length
PRGM C-60
Tape side A (front side)
A 30:00
Maximum recording time for side A

**5 Press DISC DIRECT PLAY 1-3 to select a disc. Then, press numbered buttons 0-9 and +10 on the remote control to program a track.**

Example: To select the 10th track of disc 2, press **DISC DIRECT PLAY 2**, then press **+10** and **0**.

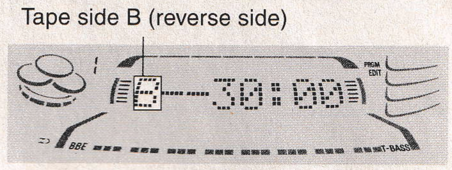

Selected track number
A10 P-01
Program number
Remaining time on side A
Programmed tracks
A 22:10
10

**6 Repeat step 5 for the rest of the tracks for side A.**

A track whose playing time is longer than the remaining time cannot be programmed.

**7 Press CD EDIT/CHECK to select side B and program the tracks for side B.**

After confirming "B" on the display, repeat step 5.


Tape side B (reverse side)
B 30:00

**8 Press the ● REC/REC MUTE button to start recording.**

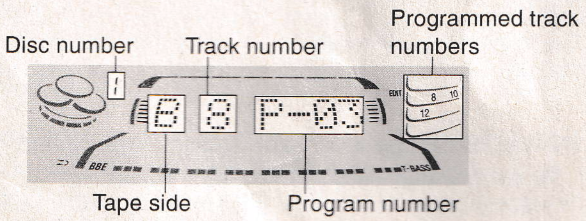
The tape is rewound to the beginning of the front side, the lead segment is played through for 10 seconds, and recording starts. When recording on the front side (A) ends, recording on the back side (B) starts.

**To stop recording**

Press ■. Recording and CD play stop simultaneously.

**To check the order of the programmed track numbers**

Before recording, press **CD EDIT/CHECK** to select side A or B, and press ◀◀ or ▶▶ repeatedly.


Disc number
Track number
Programmed track numbers
1
B 8 P-03
8 10 12
Tape side
Program number

**To change the program of each side**

Press **CD EDIT/CHECK** to select side A or B, and press ■ **CLEAR** to clear the program on the selected side. Then program tracks again.

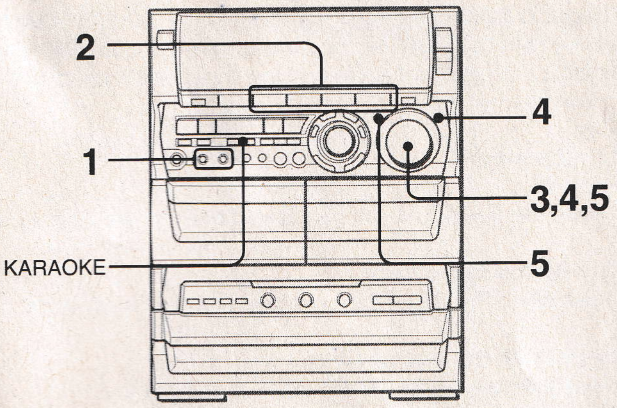
**To clear the edit program**

Press ■ **CLEAR** twice so that "EDIT" disappears on the display.

**NOTE**

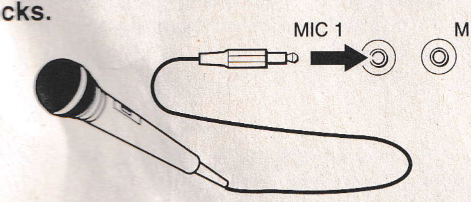
- Up to 30 tracks can be programmed from any of the inserted discs.
- "FULL" is displayed if you attempt to program more than 30 tracks.
- Recording is inhibited if the erasure prevention tab on either side of the tape is broken off.

## MICROPHONE MIXING



Two microphones (not supplied) can be connected to this unit, allowing you to sing along to music sources.
Use microphones with mini plugs (ø3.5 mm, 1/8 inch).

1 **Connect your microphones to MIC 1 and MIC 2 jacks.**



2 **Press one of the function buttons to select the source to be mixed, and play the source.**

3 **Adjust the volume and tone of the source.**

4 **Press MIC and turn VOLUME within 4 seconds to adjust the microphone volume.**
The microphone volume can be selected from 1 to MAX (7) or OFF (cancel).
The volume of both microphones is adjusted simultaneously.

5 **Press ECHO and turn VOLUME within 4 seconds to adjust the echo level.**
The echo level can be selected from 1 to MAX (7) or OFF (cancel).

### To change the delay time of echo

Hold down **ECHO** while the echo is on.
"L" (Long) and "M" (Middle) are displayed alternately. At the desired position, release the button.

### To record microphone sound mixed with source sound

Follow the procedure for recording from the sound source (see page 23).
**SYNC DUB** cannot be used for mixing recording.

### When not using the microphones

Set the microphone volume and echo level to OFF and remove the microphones from **MIC** jacks.

**NOTE**

- When the MIC or ECHO level is changed, the SURROUND mode is automatically cancelled.
- If a microphone is held too near the speakers, a howling sound may be produced. In this case, hold the microphone away from the speakers, or decrease the microphone volume.
- If sound through the microphone is extremely loud, it may be distorted. In this case, decrease the microphone volume.
- When the function is changed, the microphone volume and the echo volume are set to off.

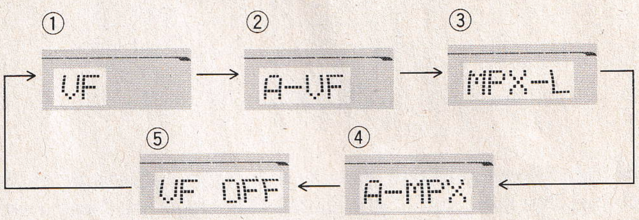
### Recommended microphones

The use of unidirectional type microphones is recommended to prevent howling. Contact your local Aiwa dealer for details.

## VOCAL FADER/MULTIPLEX FUNCTIONS

This unit can use discs or tapes as Karaoke sources.
Use the vocal fader function for ordinary discs or tapes.
Use the multiplex function for multi audio discs or tapes.

**Press KARAOKE repeatedly to select the vocal fader or multiplex function.**
Each time **KARAOKE** is pressed, one of these functions is selected cyclically.



① **Vocal Fader**
The singer's voice becomes softer than the accompaniment.

② **Auto Vocal Fader**
The singer's voice becomes softer only while there is audio input through a microphone.

③ **Multiplex**
Only the sound on the left channel is heard from both speakers, and the sound on the right channel is muted.

④ **Auto Multiplex**
The sound on the left channel is heard from both speakers, and the sound on the right channel is muted only while there is audio input through a microphone.

⑤ **Cancel**

### To change the time lag setting in Auto Vocal Fader or Auto Multiplex function

The muted singer's voice can be restored faster.
When Auto Vocal Fader or Auto Multiplex is selected, "A-VF" or "A-MPX" is displayed for 3 seconds and changes to the selected function name. After the selected function name is displayed, keep pressing **KARAOKE** until "FAST" is displayed.
To return to the initial setting, select SLOW.
When the power is turned off, SLOW is restored.

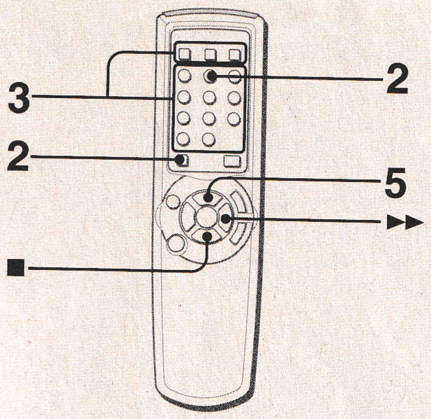
### To change the audible channel in Multiplex function

When Multiplex is selected, "MPX -L" is displayed for 3 seconds and changes to the selected function name. After the selected function name is displayed, keep pressing **KARAOKE** until "MPX-R" is displayed.
To return to the initial setting, select MPX-L.
When the power is turned off, MPX-L is restored.

**NOTE**

- The Karaoke functions may not operate correctly with the following kinds of CDs or tapes.
  - Those with monaural sound
  - Those recorded with strong echoes
  - Those with the vocal part recorded on the right or left side of the sound width
- While the Karaoke function is on, the sound is output as monaural.
- When the function is changed, the Karaoke function is cancelled.

## KARAOKE PROGRAM

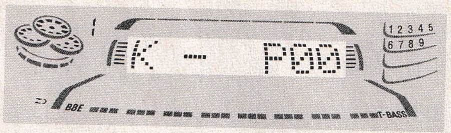


Before or during CD play, you can reserve up to 15 tracks to be played after the current track. Each reservation is cleared when it finishes playing.

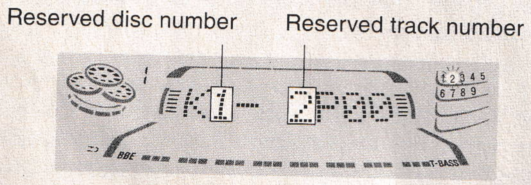
Use the remote control.

1 **Press CD and load the discs.**

2 **Press PRGM once while pressing SHIFT.**

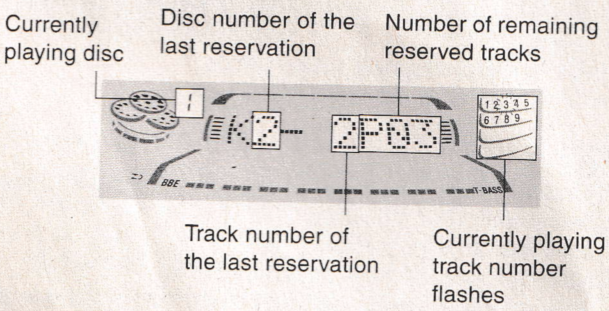

K - P00
1 2 3 4 5
6 7 8 9
BBE
T-BASS

3 **Press DISC DIRECT PLAY 1-3 to select a disc. Then, press numbered buttons 0-9 and +10 to program a track.**


Reserved disc number
Reserved track number
K1- 2P00
1 2 3 4 5
6 7 8 9
BBE
T-BASS

4 **Repeat step 3 to reserve other tracks.**

5 **Press ◀▶ to start play.**
After a track is played, it is cleared from the program.


Currently playing disc
Disc number of the last reservation
Number of remaining reserved tracks
1
K2- 2P03
1 2 3 4 5
6 7 8 9
BBE
T-BASS
Track number of the last reservation
Currently playing track number flashes

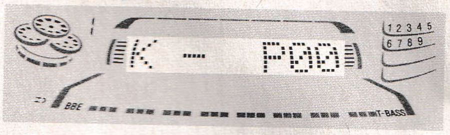
**To add a reservation during play**
Repeat step 3.

**To check the reserved tracks**
Press **CD EDIT/CHECK** on the main unit or **CD EDIT/CHECK** while pressing **SHIFT** on the remote control repeatedly. Each time it is pressed, the disc number and track number are displayed in the reserved order.

**To stop play**
Press ■.
When ◀▶ is pressed, the play starts from the last track again.

**To skip a current track**
Press ▶▶. The skipped track is cleared from the program.

**To clear all the reservations**
Press ▶▶ repeatedly until "K - P00" is displayed.

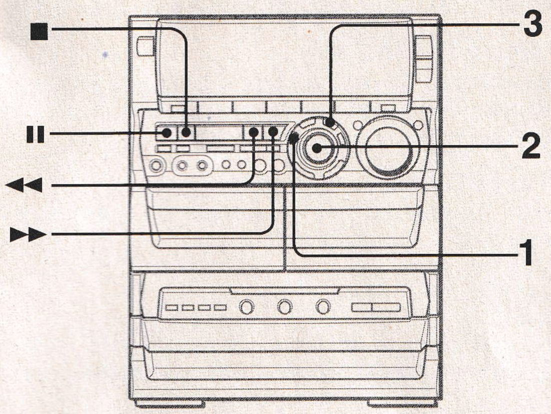

K - P00
1 2 3 4 5
6 7 8 9
BBE
T-BASS

Press it once more to cancel the Karaoke programs. The display returns to that of CD play.

**NOTE**

- If the reserved track number does not exist on the selected disc, the unit stops playing and the display flashes.
  In this case, press ▶▶ to skip the error track. Then press ◀▶ to start play with the next reserved track.
- When **PRGM** is pressed repeatedly in step 2, "PRGM" is displayed and the unit enters CD program play mode (page 22).
  To cancel program play, press ■ **CLEAR**.

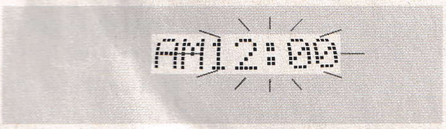
## SETTING THE CLOCK



The clock is displayed. (The ":" between the hours and minutes flashes.) When the power cord is plugged into an AC outlet for the first time after purchase or when the clock setting is cancelled due to a power failure, the entire clock display flashes.

*1* **Press CLOCK.**

When using the remote control, press **CLOCK** while pressing **SHIFT**.



*2* **Within 4 seconds, turn MULTI JOG to designate the hour and the minute.**

Turning **MULTI JOG** changes both the hour and the minute. ◀◀ or ▶▶ is also available instead of **MULTI JOG**. Holding these buttons down will vary the time rapidly.

*3* **Press ENTER or II.**

The clock starts from 00 seconds.

**To restore an original clock setting**
Press **CLOCK** before completing step 3 to restore the previous time setting. This cancels any new setting.

**To view the clock when another display is in the display**
Press **CLOCK**. The time is displayed for 4 seconds and then the original display reappears. However, the clock cannot be displayed during recording.

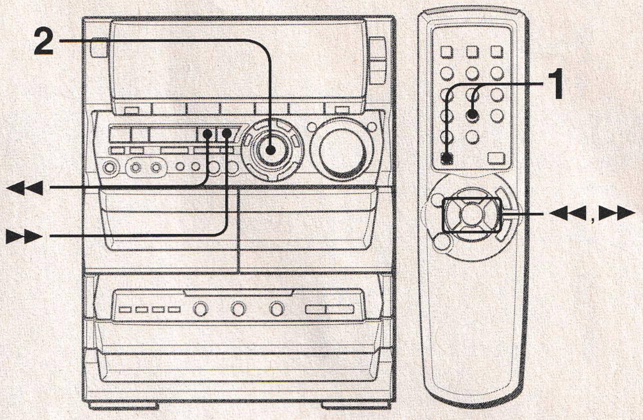
**To switch to the 24-hour standard**
Press the **CLOCK** and then press ■ within 4 seconds.
Repeat the same procedure to restore the 12-hour standard.

**If the clock display flashes**
This is caused by a power interruption. The current time needs to be reset.
If power is interrupted for more than approximately 24 hours, all settings stored in memory after purchase need to be reset.

**NOTE**

If the power-economizing mode (page 7) is on, all the display lights turn off when the power is turned off. To view the clock, press **CLOCK** so that the time is displayed for 4 seconds.

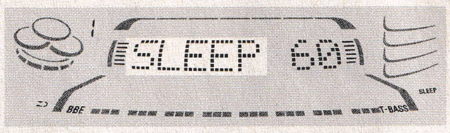
## SETTING THE SLEEP TIMER



The unit can be turned off automatically at a specified time.

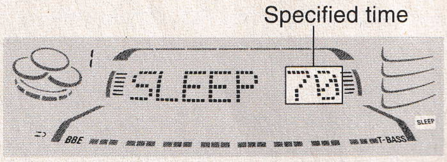
Use the remote control.

*1* **Press SLEEP while pressing SHIFT.**



*2* **Within 4 seconds, turn MULTI JOG to specify the time until the power is turned off.**

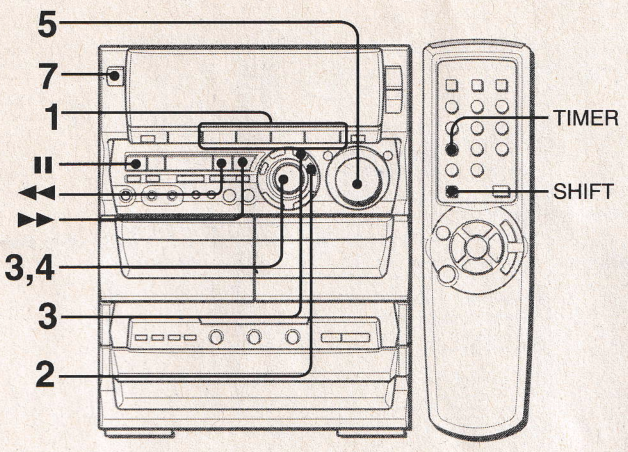
The time changes between 5 and 240 minutes in 5-minute steps.
◀◀ and ▶▶ are also available instead of **MULTI JOG**.



**To check the time remaining until the power is turned off**
Press **SLEEP** once while pressing **SHIFT**. The remaining time is displayed for 4 seconds.

**To cancel the sleep timer**
Press **SLEEP** twice while pressing **SHIFT** so that "SLEEP oFF" appears on the display.

# SETTING THE TIMER

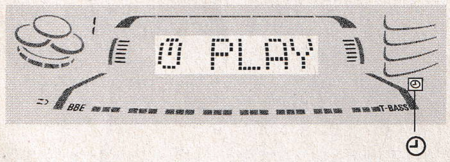


The unit can be turned on at a specified time every day with the built-in timer.

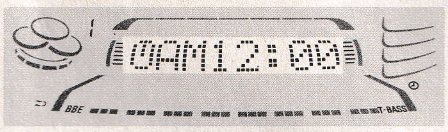
**Preparation**
Make sure the clock is set correctly.

*1* **Press one of the function buttons to select a source.**
- If **TUNER/BAND** is pressed, the band cannot be selected in this step.

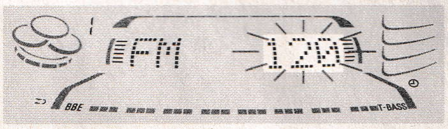
*2* **Press TIMER repeatedly until ◷ appears on the display.**
When using the remote control, press **TIMER** while pressing **SHIFT**.
Time and audio source name flash alternately.



*3* **Within 6 seconds, turn MULTI JOG to designate the timer-on time, then press ENTER or II.**
Turning **MULTI JOG** changes both the hour and the minute.
◀◀ or ▶▶ is also available instead of **MULTI JOG**. Holding these buttons down will vary the time rapidly.



*4* **Within 4 seconds, turn MULTI JOG to select the duration for the timer-activated period.**
The duration can be set between 5 and 240 minutes in 5-minute steps.
◀◀ or ▶▶ is also available instead of **MULTI JOG**.



The duration will be automatically set after 4 seconds. It will also be set if **ENTER** or **II** is pressed within 4 seconds after step 4.

*5* **Adjust the volume.**
The source sound will play at the volume level set in this step when the power is turned on by the timer.
If the volume level is set to 21 or higher, however, it will automatically be set to 20 when the power is turned on.

*6* **Prepare the source.**
**To listen to a CD**, load the disc to be played first on tray 1.
**To listen to a tape**, insert the tape into deck 1 or 2.
**To listen to the radio**, tune in to a station.

*7* **Press POWER to turn off the power.**
When the timer-on time is reached, the unit turns on and begins play with the selected source.

**NOTE**

You can change the source that was selected in step 1 by pressing one of the function buttons before pressing **ENTER** or **II** in step 3.

**To check the timer setting**
Press **TIMER**.
The selected source, the timer-on time, and the duration for the timer-activated period will be displayed for 4 seconds.

**To change any of the previous setting**
Carry out from step 1.
However, if you do not change the timer-on time, in step 3 just press **ENTER** twice and continue from step 4.

**To cancel the timer standby mode temporarily**
Press **TIMER** repeatedly so that ◷ disappears.
To restore the timer standby mode, press again to display ◷.

**Using the unit while the timer is set**
You can use the unit normally after setting the timer.
Before turning off the power, carry out step 5 and 6.

**NOTE**

- Timer playback and timer recording will not begin unless the power is turned off.
- Connected equipment cannot be turned on and off by the built-in timer of this unit. Use an external timer.

## TIMER RECORDING

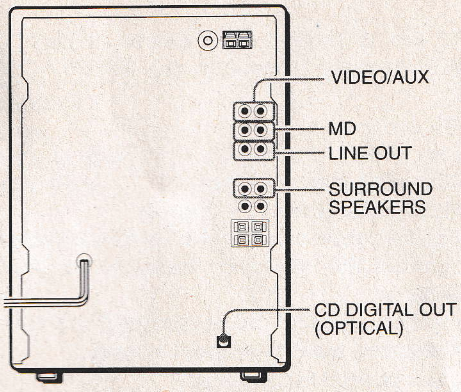
Timer recording is applicable for TUNER and VIDEO/AUX (with an external timer) sources only.

Press either **TUNER/BAND** or **VIDEO/AUX** to select a source, then **press TIMER repeatedly until ◷REC lights up on the display.** Within 6 seconds, carry out the steps of "SETTING THE TIMER" from step 3 and insert the tape to be recorded on into deck 2 after step 6.

**NOTE**

- When the power-economizing mode (page 7) has been turned on, the timer recording volume level will be 0 (minimum level).
- You cannot use the timer function to record from a CD or tape.

# CONNECTING OPTIONAL EQUIPMENT



Refer to the operating instructions of the connected equipment for details.

- The connecting cords are not supplied. Obtain the necessary connecting cords.
- Consult your local Aiwa dealer for optional equipment.

## VIDEO/AUX JACKS

This unit can input analogue sound signals through these jacks. Use a cable with RCA phono plugs to connect audio equipment (turntables, LD players, MD players, VCRs, TV, etc.).
Connect the red plug to the **VIDEO/AUX R** jack, and the white plug to the **VIDEO/AUX L** jack.

**When connecting a turntable**
Use an Aiwa turntable equipped with a built-in equalizer amplifier.

## MD JACKS

This jack is recommended to connect with an MD player.
Use a cable with RCA phono plugs.
Connect the red plug to the **MD R** jack, and the white plug to the **MD L** jack.

## LINE OUT JACKS

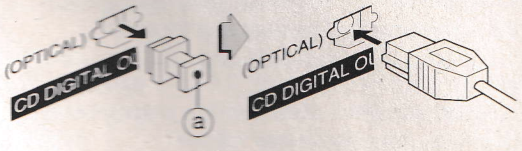
This unit can output analogue sound signal through these jacks. Use a cable with RCA phono plugs to connect audio equipment with **LINE IN** (analogue input) jacks.
Connect the red plug of a cable to **LINE OUT R** jack, and the white plug to **LINE OUT L** jack.

**NOTE**

Do not connect an equipment to **LINE OUT** jacks and **VIDEO/AUX** jacks simultaneously. Otherwise, noise is generated and malfunction occurs.

## CD DIGITAL OUT (OPTICAL) JACK

This unit can output CD digital sound signals through this jack. Use an optical cable to connect digital audio equipment (DAT deck, MD recorder, etc.).
Remove the dust cap ⓐ from the **CD DIGITAL OUT (OPTICAL)** jack. Then, connect an optical cable plug to the **CD DIGITAL OUT (OPTICAL)** jack.

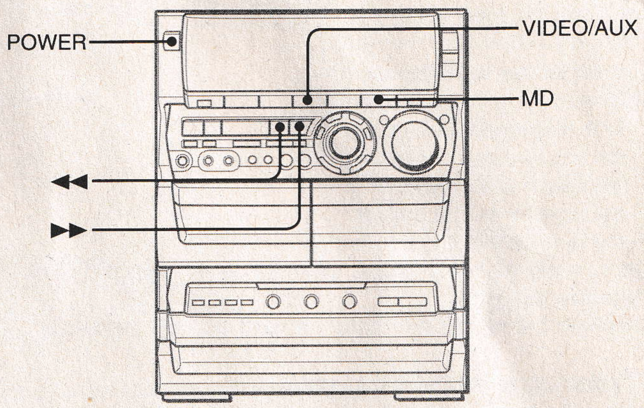


**When the CD DIGITAL OUT (OPTICAL) jack is not being used**
Attach the supplied dust cap.

## SURROUND SPEAKERS ◁ JACKS

Connect optional surround speakers with the 8 ohms to 16 ohms impedance to the jacks.

# LISTENING TO EXTERNAL SOURCES



To play equipment connected to **VIDEO/AUX** jacks or **MD** jacks proceed as follows.

1. **Press VIDEO/AUX or MD.**
   To play the equipment connected to VIDEO/AUX, press **VIDEO/AUX**. "VIDEO" appears on the display.
   To play the equipment connected to MD, press **MD**. "MD" appears on the display.
2. **Play the connected equipment.**

**To change a source name in the display**
When **VIDEO/AUX** is pressed, "VIDEO" is displayed initially. It can be changed to "AUX" or "TV".
With the power on, press **POWER** while pressing **VIDEO/AUX**.
Repeat the procedure to select one of the names.

**To adjust the sound level of the external source**
When the sound level of the external source is much higher or much lower than that of other function sources, adjust it as follows.

1. Press **VIDEO/AUX** or **MD** and play the equipment.
2. Press ◀◀ or ▶▶ so that the sound level becomes the same as that of other function sources.

**NOTE**

During recording, the sound level can not be adjusted.

## CARE AND MAINTENANCE

Occasional care and maintenance of the unit and the software are needed to optimize the performance of your unit.

### To clean the cabinet

Use a soft and dry cloth.
If the surfaces are extremely dirty, use a soft cloth lightly moistened with mild detergent solution. Do not use strong solvents, such as alcohol, benzine or thinner as these could damage the finish of the unit.

### To clean the tape heads

When the tape heads are dirty;

- high frequency sound is not emitted
- the sound is not adequately high
- the sound is off-balance
- the tape cannot be erased
- the tape cannot be recorded on

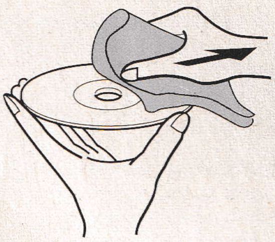
After every 10 hours of use, clean the tape heads with a head cleaning cassette.
Refer to the instructions of the cleaning cassette for details.

### To demagnetize the tape heads

The tape heads may become magnetized after long-term use. This may narrow the output range of recorded tapes and increase noise.
After every 20 to 30 hours of use, demagnetize the tape heads with a separately sold demagnetizing cassette.
Refer to the instructions of the demagnetizing cassette for details.

### Care of discs

- When a disc becomes dirty, wipe the disc from the centre out with a cleaning cloth.



- After playing a disc, store the disc in its case. Do not leave the disc in places that are hot or humid.

### Care of tapes

- Store tapes in their cases after use.
- Do not leave tapes near magnets, motors, television sets, or any source of magnetism. This will downgrade the sound quality and cause noise.
- Do not expose tapes to direct sunlight, or leave them in a car parked in direct sunlight.

## TROUBLESHOOTING GUIDE

If the unit fails to perform as described in these Operating Instructions, check the following guide.

### GENERAL

**There is no sound.**

- Is the AC cord connected properly?
- Is there a bad connection? (→ page 4)
- There may be a short circuit in the speaker terminals.
  → Disconnect the AC cord, then correct the speaker connections.
- Was an incorrect function button pressed?

**Sound is emitted from one speaker only.**

- Is the other speaker disconnected?

**The output sound is not stereo.**

- Is the Karaoke function turned on? (→ page 27)

**An erroneous display or a malfunction occurs.**

→ Reset the unit as stated below.

**The power is not turned on.**

→ Disconnect the AC cord, and connect it again in a few seconds.

### TUNER SECTION

**There is constant, wave-like static.**

- Is the antenna connected properly? (→ page 5)
- Is the signal weak?
  → Connect an outdoor antenna.

**The reception contains noise interferences or the sound is distorted.**

- Is the system picking up external noise or multipath distortion?
  → Change the orientation of the antenna.
  → Move the unit away from other electrical appliances.

### CASSETTE DECK SECTION

**The tape does not run.**

- Is deck 2 in pause mode? (→ page 19)

**The sound is off-balance or not adequately high.**

- Is the playback head dirty? (→ page 32)

**Recording is not possible.**

- Is the erasure prevention tab on the tape broken off? (→ page 23)
- Is the recording head dirty? (→ page 32)

**Erasure is not possible.**

- Is the erasure head dirty? (→ page 32)
- Is a metal tape being used?

**High frequency sound is not emitted.**

- Is the recording/playback head dirty? (→ page 32)
- Is a tape recorded without Dolby NR played back with the Dolby NR system operating? (→ page 23)

**Cassette holder does not open.**

→ Connect the AC cord and press **POWER** to turn the unit on. Then press ⏏ **PUSH EJECT** to open the cassette holder.

### CD PLAYER SECTION

**The CD player does not play.**

- Is the disc correctly placed? (→ page 21)
- Is the disc dirty? (→ page 32)
- Is the lens affected by condensation?
  → Wait approximately one hour and try again.

---

### To reset

If an unusual condition occurs in the display window or the cassette decks, reset the unit as follows.

1. Press **POWER** to turn off the power.
2. Press **POWER** to turn the power back on while pressing ■ **CLEAR**. Everything stored in memory after purchase is cancelled.

If the power cannot be turned off in step 1 because of a malfunction, reset by disconnecting the AC cord, and connect it again. Then carry out step 2.

# SPECIFICATIONS

## Main unit CX-NS888

### FM tuner section

| | |
|---|---|
| **Tuning range** | 87.5 MHz to 108 MHz |
| **Usable sensivity (IHF)** | 16.8 dBf |
| **Antenna terminals** | 75 ohms (unbalanced) |

### MW tuner section

| | |
|---|---|
| **Tuning range** | 531 kHz to 1602 kHz (9 kHz step)<br>530 kHz to 1710 kHz (10 kHz step) |
| **Usable sensitivity** | 350 μV/m |
| **Antenna** | Loop antenna |

### LW tuner section

| | |
|---|---|
| **Tuning range** | 144 kHz to 290 kHz |
| **Usable sensitivity** | 1400 μV/m |
| **Antenna** | Loop antenna |

### Amplifier section

| | |
|---|---|
| **Mid-high frequency amplifier** | |
| **Power output** | Rated: 20 W + 20 W (6 ohms, T.H.D. 1%, 1 kHz)<br>Reference: 25 W + 25 W (6 ohms, T.H.D. 10%, 1 kHz)<br>DIN MUSIC POWER: 40 W + 40 W |
| **Total harmonic distortion** | 0.1 % (10 W, 1 kHz, 6 ohms, DIN AUDIO) |
| **Low frequency amplifier** | |
| **Power output** | Rated: 90 W + 90 W (6 ohms, T.H.D. 1%, 80 Hz)<br>Reference: 112 W + 112 W (6 ohms, T.H.D. 10%, 80 Hz)<br>DIN MUSIC POWER: 180 W + 180 W |
| **Total harmonic distortion** | 0.1% (50 W, 80 Hz, 6 ohms, DIN AUDIO) |
| **Inputs** | VIDEO/AUX: 316 mV (adjustable)<br>MD: 316 mV (adjustable)<br>MIC 1, MIC 2: 1 mV (10 k ohms) |
| **Outputs** | SPEAKERS HIGH FREQ: accept speakers of 6 ohms or more<br>SPEAKERS LOW FREQ: accept speakers of 6 ohms or more<br>SURROUND SPEAKERS: accept speakers of 8 ohms to 16 ohms<br>LINE OUT: 150 mV<br>PHONES (stereo jack): accepts headphones of 32 ohms or more |

### Cassette deck section

| | |
|---|---|
| **Track format** | 4 tracks, 2 channels stereo |
| **Frequency response** | $CrO_2$ tape: 50 Hz – 16000 Hz<br>Normal tape: 50 Hz – 15000 Hz |
| **Recording system** | AC bias |
| **Heads** | Deck 1: Playback head × 1<br>Deck 2: Recording/playback head × 1, erase head × 1 |

### Compact disc player section

| | |
|---|---|
| Laser | Semiconductor laser (λ = 780 nm) |
| D-A converter | 1 bit dual |
| Signal-to-noise ratio | 85 dB (1 kHz, 0 dB) |
| Harmonic distortion | 0.05 % (1 kHz, 0 dB) |
| Wow and flutter | Unmeasurable |

### General

| | |
|---|---|
| **Power requirements** | 230 V AC, 50 Hz |
| **Power consumption** | 185 W |
| **Dimensions of main unit (W × H × D)** | 260 × 324 × 346 mm |
| **Weight of main unit** | 11 kg |
| **Standby power consumption** | With power-economizing mode off: 26 W<br>With power-economizing mode on: 1.5 W |

## Speaker system SX-WNS888

| | |
|---|---|
| **Cabinet type** | 3 way, built-in subwoofer (magnetic shielded type) |
| **Speakers** | Subwoofer:<br>160 mm cone type<br>Full range:<br>120 mm cone type<br>Super tweeter:<br>20 mm ceramic type |
| **Impedance** | 6 ohms/6 ohms |
| **Output sound pressure level** | 87 dB/W/m |
| **Dimensions (W × H × D)** | 240 × 345 × 300 mm |
| **Weight** | 5.5 kg |

Specifications and external appearance are subject to change without notice.

### BBE *SYSTEM*

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### DOLBY NR

Dolby noise reduction manufactured under license from Dolby Laboratories Licensing Corporation.
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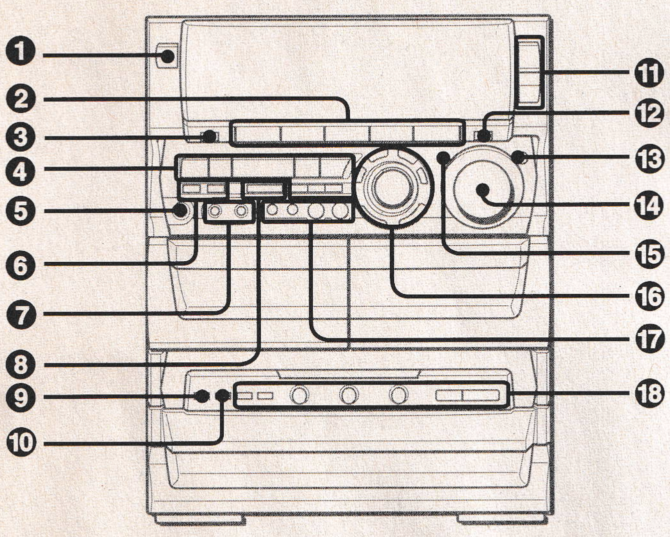
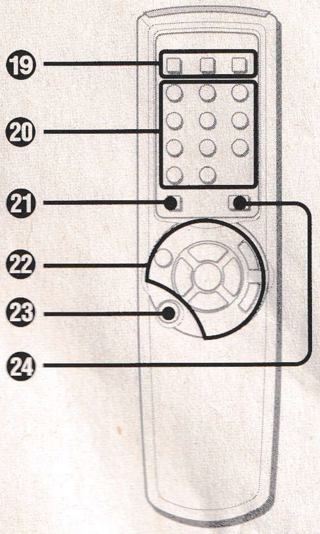
### COPYRIGHT

Please check the laws on copyright relating to recordings from discs, radio or external tape for the country in which the machine is being used.

# PARTS INDEX





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